ATTACHMENT 5

FACILITY CLOSURE/ POST CLOSURE PLAN

ATTACHMENT 5

CLOSURE PLAN

LAKE CHARLES FACILITY

Latest Revision 3/95

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A. INTRODUCTION

This document constitutes the Closure Plan for CWM's Lake Charles Facility, as required by LAC 33:V.Sub Chapter F. This plan delineates (1) the final unplanned closure procedures and schedule for each of the hazardous waste management units and (2) the final or partial planned closure procedures for each of the hazardous waste management units.

In the case of final unplanned closure of the facility, it is further assumed that:

1) Each hazardous waste treatment and process unit is holding its maximum inventory of wastes;

2) Three of the modules of the Landfill Unit being operated at the time of final unplanned closure are active and unclosed, two being filled with wastes but not yet closed with a final cover and the other being fully constructed with its liner system installed but holding a minimal amount of wastes. CWM will always have 20,000 CYs of air space available for unplanned closure;

3) Closure costs are based on closure being performed by a third party contractor although CWM reserves the right to perform closure. Closure costs are also based on all equipment, waste treatment and processing and waste disposal except direct landfill being performed by third parties;

4) The facility's remaining equipment, treatment and processing systems are operable, third party contractors will supply only labor to perform closure and the transport to off-site treatment and disposal only those wastes that cannot be treated and processed on-site and/or landfilled on-site.

Therefore, final unplanned closure assumes the most expensive and time consuming closure of the facility.

In the case of final or partial planned closure of each of the hazardous waste management units, it is assumed that;

1) Each hazardous waste treatment and process unit holds little if any wastes;

2) Only one of the modules of the Landfill Unit being operated at the time of planned closure is active and unclosed, and it has 20,000 CYs of air space available to accommodate the disposal of wastes generated by closure of the facility or individual hazardous waste management units.

3) CWM will perform closure;

4) All of the facility's equipment and treatment and processing systems are operable and can be used to treat and process the inventory of wastes and otherwise perform closure.

Therefore, the costs and schedules for planned closure activities will be less than those for unplanned closure activities. Although, this scenario of planned closure has not been used in developing the Closure Cost Estimate, it is the most likely scenario.

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CWM expects to operate the facility at least until all of the capacity in Landfill Units (Cells) 6, 7 and 8 is utilized (save for that small capacity needed to accommodate the wastes generated by final planned closure of the facility). During that period, it does not expect to close any of the treatment and processing units, but it does plan to close each module of each Landfill Unit (Cell) after it is filled to designed capacity with wastes. CWM has estimated that the expected year of closure for Landfill Unit Cell 7 is 2001. Space for additional landfill capacity is available on property CWMI owns on the east side of John Brannon Road. Utilization of this property for Landfill Cell 8 will require CWMI to obtain the necessary permit modification from LaDEQ. This additional landfill capacity is estimated to extend the ability to landfill waste through the year 2015. The other totally landfill dependent hazardous waste management units will also be closed when landfill operations cease. The non-landfill dependent hazardous waste management units could continue operation beyond this time. Thus, during the expected operating life of the facility, the only expected partial closure activities will be the closing of Cells 5, 14, 6, 7 and 8 of the Landfill Units, except for the last module of Cell 8 which will be closed during final planned closure of the facility. The procedures for each of these partial closures will be the same as the Final/Partial Planned Closure Procedures delineated in Section H-3. In the event that CWM elects to close any of the treatment and process units during the operating life of the facility, the respective Final/Partial Planned Closure Procedures delineated in the subsequent sections of this document will be employed.

A-1 Closure Policies

CWM intends to close each of the regulated units in a manner that meets the Closure Performance Standard of LAC33:V.4379 of the Louisiana Hazardous Waste Regulations. That is, it intends to close the regulated units so that (1) post-closure maintenance of the facility is minimized and (2) threats to human health and the environment and post-closure escape of hazardous wastes, hazardous waste constituents, leachate, contaminated rainfall runoff and waste decomposition products to groundwater, surface waters or the atmosphere are controlled, minimized or, eliminated. To achieve this objective, the following policies will be followed and are incorporated in this plan:

1) All solid wastes in inventory that are not restricted from landfill disposal will be placed in the Landfill Unit.

2) All sludges in inventory that can be stabilized and are not restricted from landfill disposal will be stabilized and placed in the Landfill Unit.

3) All aqueous wastes in inventory that can be adequately stabilized and are not restricted from landfill disposal will be stabilized and placed in the Landfill Unit.

4) All waste fuels in inventory will be transported to an authorized off-site user.

5) Only those wastes in inventory that cannot be treated and processed and/or landfilled on-site will be transported to an off-site, permitted or interim status hazardous waste management facility for treatment and/or disposal unless planned closure is being performed by CWM in which case these wastes will be treated and disposed on site in that same manner employed during pre-closure operations.

6) All emptied waste containers and all waste storage or treatment tanks and associated piping, pumps and valves will be removed, crushed or dismantled and placed in the Landfill Unit, unless these items can be adequately decontaminated and salvaged.

7) All other equipment that had been used to manage wastes, including equipment used in the closure activities, will be decontaminated and salvaged or, alternatively, will be placed in the Landfill Unit.

8) All unroofed secondary containment systems, except those serving the Leachate Collection tanks (T-903, T-904, T-905, T-501, T-502 and future tanks for Cells 7 and 8 which will not undergo closure), will be dismantled and placed in the Landfill Unit.

9) All roofed secondary containment systems and buildings that had been used to manage wastes will be decontaminated and left standing.

10) All fuels, reagents and other non-waste supplies will be removed and salvaged.

11) Unpaved surfaces in the process area and on the facility roads and truck staging areas will have the top 6 inches removed and the remaining surface will be sampled and analyzed to determine if any contamination exists.

12) Any unfilled, below-grade capacity of the active module of the Landfill Unit will be filled with soil and then will be closed with the construction of a final cover.

13) Any filled but unclosed module of the Landfill Unit will be closed with the construction of a final cover.

14) Leachate removal, groundwater monitoring, rainwater management and recordkeeping will be continued during closure.

15) The perimeter fence, gates and signs will be left in place.

16) No credit will be deducted from closure costs for any reagents or equipment salvaged.

These policies provide for either use or nonuse of the facility site after closure, provided that any use does not disturb the final covers or leachate collection systems of the Landfill Unit or the facility's groundwater monitoring system.

A-2 Additional Closure Requirements

As required by Section II. E. 21.d of this permit, no later than 180 days prior to planned closure of any hazardous waste unit for which "clean" or "risk-based" closure is sought, CWM will submit, for review and approval of the administrative authority, a revised closure plan for the specified unit(s). The revised closure plan must fulfill the Closure Performance Standards as specified under LAC 33:V.3507. Additionally, the closure plan must fulfill the requirements under LAC 33:V.3511. For "clean" or "risk-based" closures, the required Sampling and Analysis Plan must include provisions for analysis of volatile organic compounds, semi-volatile compounds, and a

representative suite of metals, at a minimum. The revised closure plan must also propose criteria for determining the extent of decontamination required to satisfy the closure performance standard.

Within 60 days after completion of closure of each hazardous waste management unit or final closure of the entire facility, CWM will submit to the Department of Environmental Quality a certification by one of its managers and a certification by an independent registered professional engineer indicating that the facility has been closed in accordance with the specifications of the Closure Plan approved in accordance with the preceeding paragraph.

No later than the submission of the certification of closure for each hazardous waste disposal unit, CWM will submit to the local zoning authority and the Department of Environmental Quality a survey plat indicating the locations and dimensions of Cells 5, 14, 6, 7 and 8 of the Landfill Unit with respect to permanently surveyed benchmarks, together with a record of the types, locations and quantities of hazardous wastes within each cell.

CWM will submit to the local zoning authority and the Department of Environmental Quality a record of the type, location and quantity of hazardous wastes disposed of in Cells 5, 14, 6, 7 and 8 no later than 60 days after certification of closure of Cells 5 and 8 (first and last), CWM will record, in accordance with state law, a notation on the deed to the facility property --or on some other instrument which is normally examined during title search --that will in perpetuity notify any potential purchaser of the property that it has been used to manage hazardous waste, its use is restricted under the LHWR and that a survey plat recording certain required information has been filed as specified in the LHWR.

A-3 Decontamination Procedures

As described in the following sections, all structures and equipment that have been used to manage hazardous waste and that are to remain in place for salvage or subsequent use will be decontaminated by washing. The following procedures will be used for this decontamination.

1) Any loose or caked waste residue on the structure or equipment will be removed. Typically, this will be achieved by brushing or sweeping. If these procedures are unable to remove the waste residues, the structure or equipment will be chipped, scraped or blasted and the debris then collected and removed by brushing and sweeping. All residues removed by these procedures will be collected in vacuum bags, drums or other approved container.

2) The structure or equipment then will be washed with high-pressure water or steam at a rate of approximately 0.5 to 1 gallon per square foot to which suitable detergents or other cleaning agents will be added. The washwater from this operation will be collected, stabilized and transferred to the Landfill Unit for disposal or transported to an off-site, permitted or interim status hazardous waste management facility for treatment and/or disposal.

3) The structure or equipment then will be rinsed with clean water. The rinsewater will be collected, sampled, stabilized and then transferred to the Landfill Unit for disposal or

transported to an off-site, permitted or interim status hazardous waste management facility for treatment and/or disposal. Each rinsewater sample will be analyzed for total organic carbon (TOC) and the characteristics of hazardous waste. If the sample reveals that the rinsewater has a TOC concentration less than the clear washwater and does not exhibit any of the characteristics of a hazardous waste, the structure or equipment will be considered to be decontaminated. If not, the structure or equipment will be further cleaned (e.g., by some combination of blasting, brushing, chipping, scraping, high-pressure washing and rinsing, as appropriate and necessary) until the rinsewater meets the stated criteria.

Before leaving the facility, any equipment used in the closure of the facility, which has come into contact with wastes or contaminated or potentially contaminated materials (e.g., forklifts, trucks, scrapers, dozers and loaders), will be decontaminated at the Truckwash Unit until it is closed. The Truckwash Unit will be one of the last units to be closed and, therefore, will be available for the decontamination of most of the equipment. After closure of the Truckwash Unit (e.g., equipment used in the removal and transfer of the secondary containment systems, and equipment used in the final deposition of wastes and backfill in the active module of the Landfill Unit and in the installation of the final cover on that module) will be decontaminated in the Wastewater Load/Unloading Unit. Decontamination of this equipment will consist of washing each piece with high-pressure water. All washwater will be collected and transferred off-site to a permitted or interim status hazardous waste management facility for treatment and/or disposal.

The surface six-inches of limestone surfacing material on the unpaved roads and staging areas of the facility that have been used by waste transportation vehicles will be removed and transferred to the active module of the Landfill Unit for disposal. The remaining surface will be sampled by taking a grab sample on the centerline of the roads at 200-feet intervals and by taking a composite sample in each staging area, including each area fronting the entries to truck loading/unloading stations (each composite sample being composed of a grab sample from each intersection of a 100 x 100-foot grid covering the area). If a sample exceeds the specified limits, six-inches of material over the area represented by that sample will be removed and transferred to the active module of the Landfill Unit for disposal and the sampling and removal of material will be repeated until the samples show equal to or less than the specified limits. Clean limestone will be placed on the roads providing access to the leachate collection tanks. The remaining roads and areas will be backfilled with clean soils and graded to promote drainage and then will either be limestoned or seeded to minimize erosion. The paved roads will be swept with a street sweeper and the material transferred to the active module of the Landfill Unit for disposal.

A-4 Contingent Closure Plan/Procedures

Pursuant to the LHWR, the tank systems that do not have secondary containment systems that meet the requirements of LAC33:V.1907.B and F must also include a "Contingent Closure Plan" meeting the requirements of LAC33:V.1915.B in the facility Closure Plan. This section requires the facility to close the tank system and perform post-closure care in accordance with the requirements that apply to landfills.

CWM will provide a final cover designed and constructed to: (1) provide long-term minimization of migration of liquids through the closed tank system (2) function with minimum maintenance (3) promote drainage and minimize erosion or abrasion of the cover and (4) accommodate settling and subsidence so that the cover's integrity is maintained.

B. CONTAINER MANAGEMENT UNIT

For purpose of final unplanned closure, it is assumed that the Container Management Unit will hold its maximum inventory of 4413 containers of wastes (55-gallon drums or their equivalents). For manpower activities it is further assumed that this inventory will consist of the following types of wastes:

- 1956 containers of solid wastes having no free standing liquids but being less than 90% full which can be disposed in the Landfill Unit after being filled.
- 900 containers of sludge which can be disposed in the Landfill Unit after being stabilized.
- 200 containers of aqueous wastes which, after being decanted, can be stabilized and disposed in the Landfill Unit.
- 1333 containers of other wastes (e.g., liquid organic wastes and liquid corrosive or reactive aqueous wastes that are restricted from landfill disposal) which may be sent to off-site treatment and/or disposal if they cannot be processed on-site.
- 24 containers of RCRA/PCB wastes can be sent to off-site treatment and/or disposal.
- However, the final unplanned closure cost estimate is based on all waste in the container management unit (4,413 containers) requiring off-site incineration.

B-1 Final Unplanned Closure Procedures

The containers of solid wastes will be filled with filling agent and transported to and disposed in the active module of the Landfill Unit; however, for the purposes of calculating closure costs only, the most expensive treatment and disposal costs will be used.

The containers of sludge will be stabilized by the adding and mixing of stabilization agent into the wastes. These containers will then be transported to and disposed in the active module of the Landfill Unit. For the purposes of calculating closure costs only, the most expensive treatment and disposal costs will be used.

The containers of aqueous wastes will be decanted into tank trucks, transferred to the Stabilization Unit for treatment and sent to the Landfill Unit for disposal. The emptied containers will be transferred to the Landfill Unit for crushing and disposal. For purposes of calculating closure costs only, the most expensive treatment and disposal costs will be used.

The remaining containers of wastes will be transported to off-site hazardous waste treatment and disposal.

All of the decanting pumps and piping in the units will be dismantled and transferred to the Landfill Unit for disposal.

All stabilization and filling reagent and other non-waste materials will be removed from the units and salvaged.

The floors, sumps, truck unloading stations and remaining stationary equipment in the units and equipment used in the removal of containers from the units will be decontaminated in the manner described in Section A-3. Washwater generated in the decontamination of these structures and equipment will be collected and transported to off-site disposal. The PCB storage area will be decontaminated in a manner that complies with 40 CFR Part 761 Subpart G as an "other restricted access location."

The building structures of the units, the conveyor systems and the equipment used to fill containers with stabilization reagent or filling materials will remain in place for salvage or subsequent use.

B-2 Final Unplanned Closure Schedule

Table B-1 provides the estimated schedule for final unplanned closure of these units.

B-3 Final/Partial Planned Closure Procedures

Any planned final or partial closure of these units likely will be scheduled after all inventory of wastes in these units has been processed. To the extent that this is not accomplished, the inventory of wastes in these units will be processed and then treated and/or disposed on-site in the same manner as they would have been during routine operations. Following removal of any inventory of wastes, these units will then be closed in the manner described above.

TABLE B-1
FINAL UNPLANNED CLOSURE SCHEDULE
CONTAINER MANAGEMENT UNIT

CLOSURE ACTIVITY	Calendar Days		Work Days
	Commence	Complete	
• Process, remove and load containers of waste for transfer to the Landfill Unit or transport to off-site treatment.	1	23	23
• Remove and dispose pumps and piping.	23	25	3
• Remove and salvage reagents and other non-waste materials and decontaminate floors, sumps, truck unloading station, PCB storage area and remaining equipment.	30	34	5

C. DRUM DECANT AND FILLING UNIT

For the purposes of final unplanned closure of this unit, it is assumed that the surge tanks, phase separation tanks and the sludge holding tank (tanks T-201 through T-205) will be full of organic wastes (29,400 gallons) that cannot be used for waste fuels, cannot be stabilized and landfilled and, therefore, must be sent to off-site hazardous waste incineration. It is further assumed that the maximum inventory of containers of wastes included in the final unplanned closure of the Container Management Unit described in Section B.

C-1 Final Unplanned Closure Procedures

The wastes in tanks T-201 through T-205 will be removed and transported to off-site hazardous waste incineration.

Tanks T-201 through T-205 including associated piping, pumps and valves will be decontaminated. This decontamination will produce 3,000 gallons of wastewater that will require off-site incineration. These decontaminated tanks including their associated piping, pumps, valves and carbon filters will then be dismantled, removed and transferred to the active module of the Landfill Unit for disposal.

All stabilization and filling reagents and other non-waste materials will be removed from the unit and salvaged. The floor, sumps, and remaining stationary equipment (e.g., the conveyor system and container filling equipment) in the unit will be decontaminated in the manner described in Section A-3. Washwater generated in the decontamination of theses structures and equipment will be collected and transported to off-site disposal.

The building structure of the unit and the conveyor system, container filling equipment and other stationary equipment in the unit will remain in place for salvage or subsequent use. The secondary containment system for tanks T-201 through T-205 will be dismantled and removed as part of the closure of Bulk Liquids Processing and Aqueous Waste Treatment Unit (see Section D).

C-2 Final Unplanned Closure Schedule

Table C-1 provides the estimated schedule for final unplanned closure of this unit.

C-3 Final/Partial Planned Closure Procedures

Any planned final or partial closure of this unit likely will be scheduled after all inventory of wastes in the unit has been processed. To the extent that this is not accomplished, the inventory of wastes in these units will be processed and then treated/or disposed on-site in the same manner as they would have been during pre-closure operations. Following removal of any inventory of wastes, this unit will then be closed in the manner described above.

TABLE C-1
FINAL UNPLANNED CLOSURE SCHEDULE
DRUM DECANT AND FILLING UNIT

CLOSURE ACTIVITY	Calendary Days		Work Days
	Commence	Complete	
• Remove and load, for off-site transfer, wastes in tanks T-201 through T-205.	1	2	2
• Decontaminate tanks T-201 through T-205.	3	4	2
• Dismantle and remove tanks T-201 through T-205 and associated piping, pumps, valves and carbon filters and transfer to the Landfill Unit for disposal.	9	13	5
• Remove and salvage reagents and other non-waste materials and decontaminate floors, sumps and remaining stationary equipment.	23	24	2

D. BULK LIQUIDS PROCESSING AND AQUEOUS WASTE TREATMENT UNITS

For the purpose of final unplanned closure, it is assumed all of the tanks in these units are full of wastes. It is further assumed that this maximum inventory will consist of:

- 93,000 gallons of waste fuel in tanks T-206, T-210, T-211, T-213, T-214, and T-215 which can be sent to authorized off-site users of this material.
- 20,000 gallons of aqueous wastes in Tank T-208 and which can be sent for off-site disposal.
- 16,000 gallons of aqueous wastes in Tank T-212 will be treated in the Aqueous Waste Treatment Unit and will be sent off-site for treatment and disposal.

D-1 Final Unplanned Closure Procedures

The waste fuels in tanks T-206, T-210, T-211, T-213, T-214, and T-215 will be removed and transported to authorized off-site users of waste fuel.

The aqueous wastes in Tank T-208 will be removed and transported to off-site disposal.

The aqueous wastes in tank T-212 will be treated on-site in the Aqueous Waste Treatment Unit.

Each tank will be decontaminated by washing. Washwater will be disposed by off-site incineration. The reagents in the tanks serving the Aqueous Waste Treatment Unit will be removed and salvaged.

All of the components of the Aqueous Waste Treatment Unit tanks, associated piping, pumps and valves, and carbon filters will be dismantled, removed and transferred to the active module of the Landfill Unit for disposal.

The floor and sumps of the Bulk Unloading/Loading Unit will be decontaminated in the manner described in Section A-3. Washwater generated in this decontamination will be collected and transported to off-site disposal. This unit will then remain in place for salvage or subsequent use.

The secondary containment systems for tanks T-201 through T-215 will be dismantled, removed and transferred to the active module of the Landfill Unit for disposal.

D-2 Final Unplanned Closure Schedule

Table D-1 provides the estimated schedule for final unplanned closure of these units.

D-3 Final/Partial Planned Closure Procedures

Any planned final or partial closure of these units likely will be scheduled after all inventory of wastes in these units has been processed or treated. To the extent that this is not accomplished, the inventory of wastes in these units will be processed, treated and disposed on-site in the same manner as they would have been during pre-closure operations. Following removal of any inventory of wastes, these units will then be closed in the manner described above.

TABLE D-1
FINAL UNPLANNED CLOSURE SCHEDULE
BULK LIQUIDS PROCESSING AND
AQUEOUS WASTE TREATMENT UNITS

CLOSURE ACTIVITY	Calendary Days		Work Days
	Commence	Complete	
• Remove and load, for off-site transfer, wastes in tanks T-206, T-210, T-211 and T-213 through T-215.	5	23	19
• Processing of wastes in tank T-212.	24	25	2
• Remove and load, for off-site transfer, wastes in tank T-208.	26	30	5
• Dismantle and remove tanks T-206 through T-215, the components of the Aqueous Waste Treatment Unit and associated piping, pumps, valves and carbon filters and transfer to the Landfill Unit for disposal.	31	50	20
• Remove and salvage reagent materials and decontaminate floors and sumps of the Bulk Unloading/Loading Unit.	51	51	1
• Dismantle and remove the secondary containment system for tanks T-201 through T-215 and transfer debris to the Landfill Unit for disposal.	52	60	9

E. STABILIZATION UNIT

For the purpose of final unplanned closure, it is assumed that the two mixing basins T-301 and T-302 or T-303 and T-304 in this unit are full of wastes (23,600 gallons) which can be landfill disposed after they are stabilized.

E-1 Final Unplanned Closure Procedures

The wastes in the mixing basins will be stabilized in these basins and removed and transferred to the active module of the Landfill Unit for disposal.

The mixing basins T-303 and T-304 will be removed and transferred to the active module of the Landfill Unit for disposal. The secondary containment will be decontaminated by water washing. The void will be backfilled with clay and capped with concrete floor sections.

Tank T-306 including associated piping, pumps, and valves will be decontaminated. This decontamination will produce 650 gallons of wastewater that will require off-site incineration. The decontaminated tank including piping, pumps, valves, and carbon filter will be dismantled, removed and transferred to the active module of the landfill unit for disposal.

Stabilization reagent will be removed from the unit's silo and salvaged.

The floor and interior walls of the unit and T-306 secondary containment will be decontaminated in the manner described in Section A-3. Washwater generated by this decontamination will be collected and transported to off-site disposal.

The unit's building structure, air pollution control equipment and reagent storage and feed silos will be left standing for salvage or subsequent use.

E-2 Final Unplanned Closure Schedule

Table E-1 provides the estimated schedule for final unplanned closure of this unit.

E-3 Final/Partial Planned Closure Procedures

Any planned final or partial closure of this unit likely will be scheduled after all wastes in the mixing basins have been stabilized and removed to landfill disposal. To the extent that this is not accomplished, these wastes will be stabilized and landfilled and the unit will be closed in the manner described above.

E-4 Contingent Closure Procedures

In the event that contaminated soils are detected and not all contaminated soils can be practicably removed or decontaminated, any heavily contaminated soils will be removed in addition to the Final Unplanned Closure Procedures noted in E-1 above.

TABLE E-1
FINAL UNPLANNED CLOSURE SCHEDULE
STABILIZATION UNIT

CLOSURE ACTIVITY	Calendary Days		Work Days
	Commence	Complete	
• Stabilize and remove the wastes in the mixing basins and transfer to the Landfill Unit for disposal.	30	31	1
• Remove and salvage stabilization reagent in the storage and feed silos.	32	33	2
• Decontaminate floor and interior walls of building and T-306 secondary containment.	32	37	6
• Dismantle and remove the mixing basins and T-306, the mixing basins secondary containment systems, heavily contaminated soil (Contingent Closure) and transfer to the Landfill Unit for disposal; backfill the voids and cap with concrete floor sections.	38	87	50

F. WASTEWATER HOLDING TANK

For the purpose of final unplanned closure, it is assumed that the wastewater holding tanks T-501 and T-502 will be full of wastewater (one million gallons each) which will be transported off-site for disposal.

F-1 Final Unplanned Closure Procedures

The wastewater in tanks T-501 and T-502 will be removed and transferred to off-site disposal.

Tanks T-501 and T-502 and associated piping, pumps and valves will be dismantled, removed and transferred to the active module of the Landfill Unit for disposal.

The secondary containment system for tank T-501 and T-502 will be removed and transferred to the active module of the Landfill Unit for disposal. The area will then be backfilled, recompacted and graded to promote adequate drainage and fertilized, seeded and mulched.

The floor and sumps of the Wastewater Load/Unloading Unit will be decontaminated in the manner described in Section A-3. Washwater generated by this decontamination will be collected and transported to off-site disposal.

F-2 Final Unplanned Closure Schedule

Table F-1 provides the estimated schedule for final unplanned closure of this unit.

F-3 Final/Partial Planned Closure Procedures

Any planned final or partial closure of this tank likely will be scheduled after most of the wastewaters in it has been treated and/or disposed. To the extent that this is not accomplished, these wastewaters will be transported to off-site disposal.

F-4 Contingent Closure Procedures

In the event that contaminated soils are detected and not all contaminated soils can be practicably removed or decontaminated, any heavily contaminated soils will be removed when following the Final Unplanned Closure Procedures noted in F-1 above.

TABLE F-1
FINAL UNPLANNED CLOSURE SCHEDULE
WASTEWATER HOLDING TANKS

CLOSURE ACTIVITY	Calendary Days		Work Days
	Commence	Complete	
• Remove and transfer, to off-site disposal, wastes in tanks T-501 and T-502.	1	80	80
• Dismantle and remove tank T-501 and T-502 associated piping, pumps, and valves, and transfer to the Landfill Unit for disposal.	80	110	31
• Decontaminate the floor and sumps of the Wastewater Loading/Unloading Unit.	111	112	2
• Remove the secondary containment system for tank T-501 and transfer to the Landfill Unit for disposal; backfill, recompact, grade and seed the area.	111	150	40

G. WASTEWATER TREATMENT PILOT PLANT

For the purpose of final unplanned closure, it is assumed that the wastewater treatment pilot plant (WTPP) processing equipment is full of wastewater (425 gallons), the feed tank (T-602) is full (500 gallons), the product tank (T-601) is full (250 gallons) and there is one full tank truck (4,000 gallons) on-hand that would have been feeding the plant.

G-1 Final Unplanned Closure Procedures

The wastewater in the WTPP will be removed and transferred to off-site disposal. The wastewater in the tank truck will be transferred to off-site disposal.

The WTPP processing equipment (vessels, pumps, piping, etc.) will be decontaminated in the manner described in Section A-3. Washwater generated by this decontamination will be collected and transported to off-site disposal.

The decontaminated WTPP processing equipment will be left standing for salvage or subsequent use.

G-2 Final Unplanned Closure Schedule

Table G-1 provides the estimated schedule for final unplanned closure of this unit.

G-3 Final/Partial Planned Closure Procedures

Any planned final or partial closure of the WTPP will likely be scheduled after most of the wastewater in it has been treated and/or disposed. To the extent that this is not accomplished these wastewaters will be transported to off-site disposal.

TABLE G-1
FINAL UNPLANNED CLOSURE SCHEDULE
WASTEWATER TREATMENT PILOT PLANT

CLOSURE ACTIVITY	Calendar Days		Work Days
	Commence	Complete	
• Remove and transfer, to off-site disposal, wastes in the Wastewater Treatment Pilot Plant.	78	79	2
• Decontaminate processing equipment	80	80	1

H. TRUCKWASH UNIT

For the purpose of final unplanned closure, it is assumed that the washwater tank (T-101) and the receiving tank (T-102) are full of washwaters (27,462 gallons) which can be transported for off-site disposal.

H-1 Final Unplanned Closure Procedures

The washwaters in tanks T-101 and T-102 will be removed and transported to off-site disposal.

The truckwash equipment will be dismantled, removed and salvaged.

Tanks T-101 and T-102 and the truckwash pad will be dismantled, removed and transferred to the active module of the Landfill Unit for disposal. The soils in the excavation left by the removal of tanks T-101 and T-102 will be sampled, in accordance with the procedures described in Section A-3, and any contaminated soils will be removed and also landfill disposed. The excavation then will be backfilled with compacted soil and seeded.

H-2 Final Unplanned Closure Schedule

Table H-1 provides the estimated schedule for final unplanned closure of this unit.

H-3 Final/Partial Planned Closure Procedures

Final or partial planned closure of this unit will be the same as described above.

H-4 Contingent Closure Procedures

In the event that contaminated soils are detected and not all contaminated soils can be practicably removed or decontaminated, any heavily contaminated soils will be removed when following the Final Unplanned Closure Procedures noted above in F-1 above.

TABLE H-1
FINAL UNPLANNED CLOSURE SCHEDULE
TRUCKWASH UNIT

CLOSURE ACTIVITY	Calendar Days		Work Days
	Commence	Complete	
• Remove and transfer, to off-site disposal, wastes in tanks T-101 and T-102.	72	74	3
• Dismantle, remove and salvage truckwash equipment.	75	77	3
• Dismantle and remove tanks T-101 and T-102 and the truckwash pad and sump, any contaminated soil, and transfer to Landfill Unit for disposal; backfill the excavation, recompact and seed.	78	110	33

I. TRANSPORTATION STAGING AREA

For the purpose of final unplanned closure, it is assumed that the area will be holding a maximum number of tank trailers, roll-off boxes and drum loads. It is further assumed that this maximum inventory will consist of:

- 10 tankers of waste fuel that can be blended in the bulk processing unit and shipped off-site to be used as a waste fuel
- 5 tankers of fuel blending waste water will be transported to off-site incineration
- 5 drum loads of 80 drums each that can be processed in the drum decant unit
- 25 roll-off boxes of stabilized waste that will require re-treatment through the Stabilization Unit
- 15 roll-off boxes of stabilized waste that can be landfilled

For calculation of closure cost only, assume building contains 80 roll-off boxes of burnable solids to be incinerated.

I-1 Final Unplanned Closure Procedures

The floor and sumps will be decontaminated in the manner described in section A-3. Washwater generated in this decontamination will be collected and transported to off-site disposal. This unit will then remain in place for salvage or subsequent use.

The 80 roll-off boxes of miscellaneous waste will be transported off-site for incineration.

I-2 Final Unplanned Closure Schedule

Table I-1 provides the estimated schedule for final unplanned closure of this unit.

I-3 Final/Partial Planned Closure Procedures

Any planned final or partial closure of this unit will likely be scheduled after all inventory of waste in this unit has been processed, treated and disposed on-site or sent off-site for disposal. To the extent that this is not accomplished, the inventory of wastes in these units will be processed and then treated and/or disposed in the same manner ad they would have during routine operations. Following removal of any inventory of wastes, these units will be closed in the manner described above.

TABLE I-1
FINAL UNPLANNED CLOSURE SCHEDULE
TRANSPORTATION STAGING AREA

CLOSURE ACTIVITY	Calendar Days		Work Days
	Commence	Complete	
• Process, remove and load containers of waste for transfer to the Stabilization Unit, the Landfill Unit or transport to off-site incineration.	5	20	16
• Decontaminate floor and sumps	25	30	6

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J. LANDFILL UNITS

For the purpose of final unplanned closure, it is assumed that the active module of the Landfill Unit (cell) being operated at the time of final unplanned closure will have begun receiving wastes but will hold very little wastes (e.g., less than 10,000 CYs) and, therefore, will have always at least 20,000 CYs of air space available to receive the volume of wastes to be generated in closure of the remainder of the facility. It is further assumed that two other modules of the unit will be filled with wastes but will not yet have been closed with the installation of a final cover. Finally, it is assumed that all of the other modules of the unit are closed with final covers whose specifications and design have previously been approved by the Administrative Authority in the landfill design package.

J-1 Final Unplanned Closure Procedures

The wheelwash units for washing equipment exiting the landfill will remain until waste is no longer entering the landfill. The units will either be decontaminated by washing and removed for relocation or remain in place for disposal. The access apron will be removed as necessary for installation of final cover. The apron will be disposed in the landfill.

The two filled but unclosed modules will be closed with the installation of final cover.

The active module will be operated until all of the other hazardous waste management units have been closed and any contaminated soils from the facility site have been removed and landfill disposed. This will enable the active unit to receive landfillable wastes generated during closure.

The active module will then be backfilled with compacted soil to ground level plus a crown to provide a 20:1 slope for the final cover.

A final cover then will be installed on the backfilled active module.

J-2 Final Unplanned Closure Schedule

Table J-1 provides the estimated schedule for final unplanned closure of this unit.

J-3 Final/Partial Planned Closure Procedures

During pre-closure operation of the facility, each full module of the Landfill Unit (cell) will be capped with a final composite cover approved by LDEQ and the installation of the final cover over the last open module will commence after the module is filled to capacity with wastes, as weather conditions permit.

General specifications and design of the closure covers for each Landfill Unit (cell) have been previously approved by the Administrative Authority prior to the construction of the Unit; however, while the details of the final closure cover are not included in this plan, details of final cover to be incrementally placed over each full module will be submitted to the Administrative Authority for review. Because final cover will be placed incrementally over the cell during its active life,

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"closure" is considered underway once the final cover is ready to be placed over the last open module of each Landfill Unit.

Landfill Cell 5 was closed in accordance with a Closure Plan approved by the Department of Natural Resources in 1982 and certification of closure was obtained in January 1989. This plan required and the cell has a final cover consisting of 4 feet of recompacted clay having a permeability equal to or less than 1 x 10 E-7 cm/sec and is overlaid with a layer of topsoil. This topsoil is graded and contoured to promote surface runoff of rainwater and vegetated with grass to minimize erosion. The cell has a leachate collection system, and the southern half of the cell has a leachate detection system underlying the leachate collection system.

Landfill Cell 14 was closed in accordance with a Closure Plan approved by the Department of Environmental Quality in June 1988 and closure was completed in December 1988. This plan required and the cell was closed in the same manner described in the first two paragraphs of this section.

TABLE J-1
FINAL UNPLANNED CLOSURE SCHEDULE
LANDFILL UNITS

CLOSURE ACTIVITY	Calendar Days		Work Days
	Commence	Complete	
• Install final cover on the filled but unclosed modules of the Landfill Unit.	1	120	120
• Operate the active module of the Landfill Unit to dispose of wastes generated during closure.	1	120	120
• Backfill unfilled capacity of active module of the Landfill Unit.	1	120	120
• Install final cover on the active module of the Landfill Unit.	120	180	61

K. OTHER CLOSURE ACTIVITIES

K-1 Final Unplanned Closure Procedures

The superstructure of the Truck Sampling Station will be dismantled, removed and transferred to the active module of the Landfill Unit for disposal.

The unpaved surfaces on all of the roadways and staging areas used by waste transportation vehicles will be sampled in accordance with the procedures described in Section A-3. Any contaminated surfaces will be removed and transferred to the active module of the Landfill Unit for disposal.

Any wastes in the laboratory will be packaged in lab packs and transferred to off-site incineration for treatment. Any non-waste chemicals in the laboratory will be removed and salvaged. The laboratory will be cleaned and decontaminated and left in place for salvage or subsequent use.

All rainwater collected during the closure period in the active module of the Landfill Unit and in secondary containment systems of the other regulated units will be removed and transported to off-site disposal. It is assumed that five million gallons of rainwater will be collected and so managed during the closure period.

Leachate will continue to be removed from the Landfill Unit during the closure period. It will be transported to off-site disposal. It is estimated that 500,000 gallons of leachate will be removed and treated during the closure period.

The final covers of the closed modules of the Landfill Unit will be mowed as necessary and will be inspected quarterly and repaired as necessary during the closure period.

The groundwater monitoring system will be operated and samples will be taken and analyzed quarterly during the closure period.

Weekly inspections of the closure activities will be made by a professional engineer throughout the closure period.

K-2 Final Unplanned Closure Schedule

Table K-1 provides the estimated schedule for the other closure activities during final unplanned closure of the facility.

K-3 Final/Partial Planned Closure

The same other closure activities described above will be performed in final planned closure of the facility.

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TABLE K-1
FINAL UNPLANNED CLOSURE SCHEDULE
OTHER CLOSURE ACTIVITIES

CLOSURE ACTIVITY	Calendar Days		Work Days
	Commence	Complete	
• Dismantle and remove superstructure of Truck Sampling Station and transfer to the Landfill Unit for disposal.	44	47	4
• Sample the unpaved surfaces of the roads and truck staging, remove any contaminated surfaces and transfer to the Landfill Unit for disposal.	58	69	12
• Remove wastes and chemicals from the Laboratory and decontaminate.	41	45	5
• Remove potentially contaminated rainwater from the active module of the Landfill Unit and from unroofed secondary containment systems until they are removed and transported to off-site disposal.	1	180	180
• Transfer leachate from the Leachate Collection Tanks and transport to off-site disposal.	1	180	180
• Inspect and repair, as necessary, final covers of closed Landfill Unit modules.	1	180	180
• Maintain the groundwater monitoring system and take and analyze samples at the scheduled semi-annual times.	1	180	180
• Perform closure inspections and certification.	1	180	180

L. OVERALL FINAL UNPLANNED CLOSURE SCHEDULE

Table L-1 displays the overall schedule for final unplanned closure of the facility. It is a composite of the schedules presented for the individual regulated units in Tables B-1 through J-1. This overall schedule and its subsidiary schedules are based on the following:

- A crew of workers with equipment (e.g., pumps and forklifts) will be employed to remove and load the inventories of bulk and containerized wastes for transfer to the Landfill Unit or transport to off-site treatment and disposal. This crew will fill less-than-90% full containers of solid wastes and will stabilize containers of sludge that are in inventory and can be landfilled after being filled or stabilized. This crew also will decant aqueous wastes from containers where these wastes can be stabilized and sent to the Landfill Unit for disposal.

- A crew of workers with equipment (e.g., a crane, dump trucks and cutting torches) will be used to remove tanks, piping, pumps, valves and other equipment scheduled for removal and to transfer them to the Landfill Unit for disposal.

- A crew of workers with equipment (e.g., dozers, loaders, dump trucks and cutting torches) will be used to remove concrete secondary containment systems, the mixing basins at the Stabilization Unit, the Truckwash receiving tank, the Truck Sampling structure and Inbound and Outbound Truck Scales, and to transfer the removed debris to the Landfill Unit for disposal.

- A crew of workers with equipment (e.g., scrappers and dozers) will be used to remove the secondary containment system for tank T-501 and contaminated site soils, and to backfill the active module of the Landfill Unit with soil.

- A crew of workers with equipment (e.g., high-pressure water/steam washing equipment and vacuum trucks) will be employed to decontaminate equipment, building floors and sumps and the laboratory.

- A fleet of tank trucks will be used to transport bulk liquid wastes off-site and a fleet of van trucks will be used to transport containerized wastes off-site.

- A crew of workers will install the final covers on the three modules of the Landfill Unit to be closed.

- A crew of workers will operate the active module of the Landfill Unit until all wastes generated by the closure activities have been disposed in the module.

- A crew or workers will manage the closure activities and perform the ancillary tasks of removing and transferring leachate to off-site disposal, taking groundwater and soil samples, maintaining records and maintaining the inspection schedule.

As can be seen in Table L-1, all inventoried wastes will be removed within 90 days after commencement of closure, and closure will be completed within 180 days after commencement.

TABLE L-1
OVERALL FINAL UNPLANNED CLOSURE SCHEDULE

Closure Activity	Calendar Days	
	Commence	Complete
Remove Inventory of Wastes		
• Container Management Units	1	23
• Drum Decant and Filling Unit	1	4
• Bulk Liquids Processing and Aqueous Waste Treatment Units	5	30
• Stabilization Unit	30	31
• Wastewater Holding Tank	1	80
• Truckwash Unit	72	74
• Wastewater Treatment Pilot Plant	78	79
• Transportation Staging Area	5	20
Remove and Dispose of Tanks and Equipment		
• Drum Decant and Filling Unit	9	13
• Container Management Unit	23	25
• Bulk Liquids Processing and Aqueous Waste Treatment Units	31	50
• Truck Sampling Station	44	47
• Wastewater Holding Tank	80	110
• Truckwash	78	110
Remove and dispose of Concrete Structures		
• Stabilization Unit (mixing basins)	38	87
• Bulk Liquids Processing and Aqueous Waste Treatment Units	52	60
• Wastewater Holding Tank	111	150
• Truckwash	78	110
Remove and Dispose of Earthen Structures and Contaminated Soils and Seed		
• Wastewater Holding Tanks T-501 and T-502)	111	150
• Contaminated Soils	1	150

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Closure Activity	Calendar Days	
	Commence	Complete
Decontamination of Structures and Equipment and Salvage of Non-Waste Materials		
• Drum Decant and Filling Unit	23	24
• Container Management Unit	30	34
• Bulk Unloading/Loading Unit	51	60
• Stabilization Unit	32	37
• Wastewater Load/Unloading Unit	111	112
• Laboratory	41	45
• Truckwash	75	77
• Wastewater Treatment Pilot Plant	80	80
• Transportation Staging Area	25	30
Operation and Closure of Landfill Unit Modules		
• Filled Modules (install final cover)	1	120
• Active Module (operate)	1	120
• Active Module (backfill)	1	120
• Active Module (install final cover)	120	180
Other Closure Activities		
• Manage Potentially Contaminated Rainwater	1	180
• Manage Leachate	1	180
• Inspect and Maintain Final Covers on Closed Modules	1	180
• Operate Groundwater Monitoring Program	1	180
• Inspect and Certify Closures	1	180

ATTACHMENT 5

POST-CLOSURE PLAN

LAKE CHARLES FACILITY

Latest Revision 3/95

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A. INTRODUCTION

This document constitutes the Post-Closure Plan for Chemical Waste Management's (CWM's) Lake Charles Facility, as required by LAC33:V.4391 of the Louisiana Hazardous Waste Regulations (LHWR). It describes (1) post-closure care and maintenance of Landfill Cells 5, 6, 7, 8, 14 and tank systems requiring contingent closure which will be the only regulated units remaining at the facility after unplanned closure; (2) post-closure maintenance of the facility's fencing and drainage channels; and (3) post-closure monitoring of groundwaters using the facility's groundwater monitoring system. It assumes that these activities will be carried out for 30 years after completion of closure.

Whenever a proposed change in the design or operation of the facility affects this post-closure plan, a request for a change to this plan will be submitted to the Administrative Authority at least 60 days prior to the proposed change. Whenever an unanticipated event necessitates a change to this plan, request to effect the change will be submitted within 60 days after the event.

A copy of this plan, with any modifications made to it, will be maintained at the facility at all times until closure of the facility is completed. After closure of the facility is completed, a copy of this plan, with any modifications made to it, will be maintained at CWM's Corporate Headquarters in Oak Brook, Illinois. The address and telephone number of the facility and the Corporate Headquarters are provided in Section B of this plan.

A-1 Post-Closure Assumptions

It is assumed that the facility will be closed in the manner described in the Closure Plan. Consequently, wastes and waste residuals will have been removed from all regulated units except Landfill Cells 5, 6, 7, 8, 14 and tank systems requiring contingent closure. Therefore, these landfill cells will be the only regulated units that will have to be maintained during the post-closure period.

Landfill Cell 5 was closed in accordance with a Closure Plan approved by the LADEQ in 1988 and certification is complete. This plan required and the cell has a final cover consisting of 4 feet of recompacted clay having a permeability equal to or less than 1×10^{-7} cm/sec and is overlaid with a layer of topsoil This topsoil is graded and contoured to promote surface runoff of rainwater and is vegetated with grass to minimize erosion. The cell has a leachate collection system, and the southern half of the cell has a leachate detection system underlying the leachate collection system. It is assumed that the final cover, leachate collection system and leachate detection system will be maintained to their design standards until the completion of closure.

The final cover of Landfill Cell 5 minimizes the infiltration of rainwater into the cell and, therefore, minimizes the generation of leachate in the cell. Based on current leachate pumping records, approximately 500 gals/day of leachate will be generated from this cell. It is assumed that this rate of leachate generation will continue throughout the post-closure period.

Landfill Cells 6, 7 and 8 will be closed by installation of a final cover whose specification and design have previously been approved by the Administrative Authority in the landfill design package Each of these covers will generally consist of a 2-foot thick compacted clay layer, a 40-mil synthetic liner, a synthetic drainage layer and a 2-foot thick layer of topsoil. Each will be graded and contoured to promote the surface runoff of rainfall and will be planted with grass to minimize erosion. Each cell is/will be equipped with a leachate collection system and a leachate detection system.

Landfill Cell 14 was filled to capacity in late October 1987 and was certified closed with the installation of the same type of cover described above for Landfill Cells 6, 7 and 8. This cell is also equipped with a leachate collection and a leachate detection system.

It is assumed that the final covers, leachate collection systems and leachate detection systems of Landfill Cells 6, 7, 8 and 14 will have been installed to their design standards and will be maintained to these standards until completion of closure.

The final covers of Landfill Cells 6, 7, 8 and 14 will prevent the infiltration of rainwater into the cells because of the incorporation of synthetic membrane liners in these covers. Therefore, no additional leachate will be generated in these cells during the post-closure period. However, the wastes in these cells will contain leachate at the time of closure as a result of rainfall infiltration into the wastes during the period of operation when the cell was uncovered. During a period of several years after each of these cells is closed, this leachate will drain down to the leachate collection system and be removed. After this dewatering period, no significant amount of leachate will be collected.

The facility has and will continue to have surface runoff drainage channels to carry rainwater runoff from the site to natural off-site drainage channels to prevent flooding of the site. It is assumed that these channels will be in place and well maintained to serve their intended purpose at the completion of closure.

The post-closure Detection Monitoring Program for cells 5, 6, 7 and 14 will employ 53 monitoring wells screened in the 60-foot sands. These fifty-three wells will be sampled and analyzed semi-annually for the following parameters: volatile organics, total phenol, total cyanide, lead and hexavalent chromium.

The post-closure Detection Monitoring Program for Cell 8 has not yet been designed, but is expected to consist of approximately 24 monitoring wells similar to those for Cells 5, 6, 7 and 14. They will also be screened in the 60-foot sands and sampled and analyzed semi-anually for the same parameters.

The facility is currently secured with a chain link fence around its entire perimeter which has several gates that are closed and locked when the facility is not operating or when the gates are not manned. This fence is posted with warning signs as required by the LHWR. The facility also has several permanent benchmarks. It is assumed that this facility security system and these benchmarks will remain in place and be in good repair at the completion of closure.

A-2 Post-Closure Policies

CWM intends to maintain the facility throughout the post-closure period so that threats to human health and the environment and post-closure escape of hazardous wastes, hazardous waste constituents, leachate, contaminated rainfall runoff and waste decomposition products to the groundwater, surface waters or the atmosphere are prevented, minimized or controlled. To achieve this objective, the following policies will be observed during the post-closure period and are incorporated in this plan:

1) The final covers of Landfill Cells 5, 6, 7, 8 and 14 and the tank systems requiring Contingent Closure will be maintained so as to prevent or minimize the infiltration of rainwater into the cells, maximize rainfall runoff and minimize erosion or other damage to the integrity of the covers.

2) The accumulation of leachate in the leachate collection systems will be monitored and periodically removed so that the maximum depth of leachate on the floor of the leachate collection system will not exceed 1 foot in Cells 6, 7, 8 and 14 and within 2 feet of the lowest practical level in Cell 5. The removed leachate will be transported to off-site hazardous waste disposal. The tank systems requiring Contingent Closure are equipped with automated leachate collection and detection systems and will also be manually inspected in accordance with the inspection plan.

3) The leachate detection systems will be monitored to detect any leachate in these systems. Any leachate detected will be removed and transported to off-site hazardous waste disposal.

4) The surface runoff channels on the site will be maintained so that they will serve their purpose and will prevent flooding of the site.

5) The facility perimeter fences, gates, posted warning signs and benchmarks will be maintained and the gates will be kept closed and locked to prevent unauthorized entry onto the site.

6) The Detection Groundwater Monitoring Program will be maintained.

7) Post-Closure use of the facility will be controlled and maintained so that the final covers and leachate collection and detection systems of Landfill Cells 5, 6, 7, 8 and 14; the groundwater monitoring system; the surface water drainage channels and flood control levee; and the facility fencing, gates and benchmarks will not be disturbed in a manner that would adversely affect their intended purposes.

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B. GENERAL FACILITY INFORMATION

Facility EPA ID Number:	LAD000777201
Owner and Operator:	Chemical Waste Management, Inc.
Facility Mailing Address and Telephone Number:	7170 John Brannon Road Sulphur LA 70663 318-583-2169
Owner/Operator Mailing Address and Telephone Number:	3001 Butterfield Road Oak Brook IL 60521 708-572-8800

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C. POST-CLOSURE ACTIVITIES

C-1 Scheduled Inspections

All of the inspections of the facility will be made by a qualified inspector in accordance with the Post-Closure Inspection Schedule set forth in Table C. The inspection findings will be recorded in an inspection report. Copies of these reports will be maintained at CWM's Corporate Headquarters. Any deficiencies found will be corrected.

An annual certification of conformance with the post-closure care requirements will be made by an independent registered professional engineer. The entire facility will be inspected as well as all of the inspection records.

A final certification will be conducted at the end of the post-closure care period by an independent registered professional engineer. The entire facility will be inspected as well as all of the annual post-closure certifications.

C-2 Maintenance of Final Covers, Flood Control Levee, Drainage Channels and Surveying

The grass cover on the flood control levee and the final covers of Landfill Cells 5, 6, 7, 8 and 14 and the tank systems requiring Contingent Closure will be mowed quarterly. In addition, vegetation developed in the drainage channels will be bush-hogged quarterly for the first 5 years and semi-annually thereafter.

Any necessary repairs to the flood control levee and final covers of the landfill cells will be performed quarterly for the first 5 years and semi-annually thereafter. Such repairs will include:

- Reseeding of any bare areas.
- Removal of any deep rooted plants and control of burrowing animals.
- Filling and seeding any depressions or areas damaged by erosion.
- Repairing any excessive erosion or any blockages of drainage channels.

C-3 Removal of Leachate

The depths of leachate in the Leachate Collection Systems will be measured and the occurrence of leachate in the Leachate Detection Systems will be determined on a monthly basis in accordance with the Post-Closure Inspection Schedule (Table C) in the Post-Closure Plan.

Any leachate in the Leachate Collection and Detection Systems will be removed and the amount removed from each cell module will be measured. Removed leachate will be transported, as hazardous waste, to an off-site facility for treatment and disposal. Records will be maintained of the amounts and disposition of removed leachate. These records will be maintained at CWM's Corporate Headquarters.

C-4 Maintenance of Facility Fence and Benchmarks

The facility fence and gates will be repaired as necessary. The facility benchmarks will be reestablished if disturbed.

C-5 Groundwater Monitoring

The afore mentioned groundwater monitoring wells will be sampled semi-annually and analyzed for those parameters cited in Section A-1. Groundwater levels in each well will be recorded at each sampling event. Records of results will be maintained at CWM's Corporate Headquarters. Monitoring results and a statistical evaluation of these results will be submitted to the Department as required by the LHWR.

Any damage to the groundwater monitoring wells will be repaired on an as needed basis.

TABLE C-1
POST-CLOSURE INSPECTION SCHEDULE

Item	Inspection	Period Year	Frequency
Final Cover Vegetation	Bare or dead areas	1-5 6-30	Quarterly Semi-Annually
	Deep rooted vegetation starts	1-5 6-30	Quarterly Semi-Annually
Final Cover Integrity	Depressions	1-5 6-30	Quarterly Semi-Annually
	Erosion damage	1-5 6-30	Quarterly Semi-Annually
	Holes or cracks	1-5 6-30	Quarterly Semi-Annually
	Rodent infestation	1-5 6-30	Quarterly Semi-Annually
Drainage Channels, Flood Control Levee	Excessive erosion	1-5 6-30	Quarterly Semi-Annually
	Excessive vegetation or blockage	1-5 6-30	Quarterly Semi-Annually
Leachate Tanks T903, T904, T905 and three future tanks for Cell 7 and Cell 8	Corrosion, release of waste, data gathered from monitoring and leak detection equipment, construction materials and area immediately surrounding tank system	1-30	Daily
Leachate Collection System	Liquid level in sumps		Monthly
Leachate Detection System	Fluid in sumps		Monthly
Facility Fence and Benchmarks	Deterioration or damage of fence	1-5 6-30	Quarterly Semi-Annually
	Deterioration or damage of gates	1-5 6-30	Quarterly Semi-Annually
	Damage of benchmarks	1-5 6-30	Quarterly Semi-Annually
Annual Post-Closure Certification	Review all areas of facility as well as the inspection and maintenance records	1-30	Annual
Final Post-Closure Certification	Review of all areas of facility and the annual post-closure certifications	30	Once

ATTACHMENT 6

FACILITY CLOSURE POST-CLOSURE COST ESTIMATE

ATTACHMENT 6

CLOSURE COST ESTIMATE

LAKE CHARLES FACILITY

Latest Revision 3/95

LAKE CHARLES FACILITY
CLOSURE COST ESTIMATES

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A. INTRODUCTION

This document provides the Closure Cost Estimate, as required by LAC33:V.4401. This Closure Cost Estimate is based on the final unplanned closure procedures and schedule delineated in the Closure Plan. It represents the most costly closure of the facility because:

1) It assumes that the facility will hold its maximum inventory of wastes in storage and treatment at the time of closure.

2) It assumes that two modules of the Landfill Unit will have just been filled but will not have been closed with the installation of a final cover and that deposition of wastes will have just started in the active module of the Landfill Unit and CWM will always have 20,000 CYs of air space available for unplanned closure. Thus, it assumes the most costly closure of the Landfill Unit, that is, the closure of three modules with the installation of final covers and the backfilling of most of the capacity of the active module because it will have received only a small amount of wastes.

3) It assumes that a third party contractor will perform closure and all labor, management and engineering rates are based on 10 hour work days.

4) It assumes that all on-site treatment costs include labor, depreciation and overhead.

5) It assumes that all CWM equipment costs include fuel, depreciation and overhead.

6) It assumes that all personal protective equipment costs per manday consists of 3 polytyvek suits, 3 pair nitrile gloves, 3 pair PVC boot covers, 1 pair safety glasses and 1 disposable respirator.

A separate cost estimate is provided in Tables B through I for the closure of each regulated unit and a cost estimate is provided in Table J for other necessary closure activities (there is no Table A). These tables are based on the respective closure procedures and the closure schedules given in Sections B through I and in Tables B-1 through I-1 of the Closure Plan.

The overall estimated cost of final unplanned closure is given in Table J. This table is based on an aggregation of the estimated closure costs for the individual regulated units and the other closure activities presented in Tables B through I.

It is to be noted that final planned closure of the facility will be considerably less expensive than final unplanned closure as presented in this document because (1) such closure will be planned and scheduled when there will be little if any wastes in inventory, (2) many or all of the regulated treatment units will be operable so that on-site rather than off-site treatment of wastes can be performed, and (3) the facility's equipment, rather than rented equipment, will be available for use during closure.

TABLE B FINAL UNPLANNED CLOSURE COST ESTIMATE CONTAINER MANAGEMENT UNIT	
Closure Activity	Cost
Labor: Loading of 4,413 containers of miscellaneous wastes for transport to off-site treatment. (3 men x 23 days) • 69 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	7,935
Transportation: 4,413 containers of wastes to off-site treatment. (80 containers/load = 56 loads) • 56 loads @ 375/load (Environmental Trucking Co. - Sulphur, LA.)	21,000
Off-site Treatment: Incineration of RCRA/TSCA wastes. (24 containers x 55 gal. = 1,320 gal.) • 1,320 gallons @ 10 lb/gal @ $1.40 lb (Rollins Environmental - Deer Park, TX.)	18,480
Off-Site Treatment: Incineration of miscellaneous wastes (4,413-24) 4,389 containers) • 4,389 containers @ $475/container (Rollins Environmental - Deer Park, TX)	2,084,775
Labor: Removal of pumps and piping for transfer to the Landfill Unit. (4 men x 3 days) • 12 mandays @ 115/manday (CIVIL Eng. & Env. - Westlake, LA.)	1,380
Labor: Loading and transfer of pumps, piping and associated equipment to the Landfill Unit for disposal • DJB Operator 3 mandays @ $115/day • Cherrypicker Operator 3 mandays @ $115/day • Forklift Operator 3 mandays @ $115/day (CIVIL Eng. & Env. - Westlake, LA.	345 345 345
Equipment: Rental of equipment for removal and transport of pumps, piping and associated equipment to the Landfill Unit • DJB 3 days @ $1200/day (LA Machinery - Lake Charles, LA.) • Cherrypicker 3 days @ $250/day (Headon Engineering - Lake Charles, LA.) • Forklift 3 days @ $150/day (Daily Equipment - Lake Charles, LA.) • Pickup Truck 3 days @ $20/day (CIVIL Eng. & Env. - Westlake, LA.)	3,600 750 450 60
Labor: Decontamination of floors, sumps, equipment and truck unloading station. (3 men x 5 days) • 15 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	1,725

TABLE B FINAL UNPLANNED CLOSURE COST ESTIMATE CONTAINER MANAGEMENT UNIT	
Closure Activity	Cost
Analyses: Analyses of decontamination washwater for evaluation with decontamination criteria • 10 samples @ $1,200/set of analyses (Analytical & Consulting Services - Sulphur, LA.)	12,000
Labor: Remove and load 10,000 gallons of decontamination washwater for transport to off-site deepwell disposal. (1 man x 2 days) • 2 mandays @ $115/day (CIVIL Eng. & Env. - Westlake, LA.)	230
Transportation: 10,000 gallons of decontamination washwater to off-site deepwell disposal • 2 loads @ $375/load (Environmental Trucking Co. - Sulphur, LA.)	750
Off-Site Disposal: Deepwell disposal of decontamination washwater • 10,000 gals @ $0.15/gal (Rollins Env. Services - Bayou Sorrell, LA.)	1,500
Labor: Decontamination of PCB storage area. (2 men x 1 day) • 2 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	230
Analyses: Analyses to verify PCB decontamination pursuant to 40 CFR Part 761 Subpart G as an "other restricted access location." • 13 samples @ $200/sample (Analytical and Consulting Services - Sulphur, LA.)	2,600
Labor: Remove, containerize and load PCB decontami-nation materials. (2 men x 1 day) • 2 mandays @ $115/day (CIVIL Eng. & Env. - Westlake, LA.)	230
Transportation: 3 containers (165 gallons) of wastes to off-site treatment • 1 load @ $375/day (Environmental Trucking Co. - Sulphur, LA.)	375
Off-site Treatment: Incineration of 165 gals. of decontamination materials • 165 gal @ $10 lb/gal @ $0.715/lb (Rollins Environmental - Deer Park, TX.)	1,180
Supplies: Personnel protective equipment • 111 mandays @ $50/manday (Orr Safety Equipment - New Orleans, LA.)	5,550
Equipment Rental: Hot water pressure washer • 5 workdays @ $100/day (Power Equipment - Lake Charles, LA.)	500

TABLE B FINAL UNPLANNED CLOSURE COST ESTIMATE CONTAINER MANAGEMENT UNIT	
Closure Activity	Cost
1995 TOTAL	2,166,335

TABLE C
FINAL UNPLANNED CLOSURE COST ESTIMATE
DRUM DECANT AND FILLING UNIT

Closure Activity	Cost
Labor: Remove and load 29,400 gallons of wastes from tanks T-201 through T-205 for transport to off-site incineration (1 man x 2 days) • 2 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	230
Transportation: 29,400 gallons of wastes to off-site incineration • 6 loads @ $375/load (Environmental Trucking Company - Sulphur, LA.)	2,250
Off-Site Treatment: Incineration of 29,400 gallons of wastes • 29,400 gal @ 10 lb/gal @ $0.03/lb (Rollins Environmental - Deer Park, TX.)	8820
Labor: Decontaminate tanks T-201 through T-205 (2 men x 2 days) • 4 mandays @115/manday (CIVIL Eng. & Env. - Westlake, LA.)	460
Transportation: 3000 gallons of waste to off site incineration • 1 load @ $375/load (Environmental Trucking Company - Sulphur, LA.)	375
Off-Site Treatment: Incineration of 3,000 gallons of wastewater • 3000 gal @ 8.5 lb/gal @ $0.23/lb (Rollins Environmental - Deer Park, TX.)	5865
Labor: Dismantling of tanks T-201 through T-205 and associated piping, pumps, valves and carbon filters for transfer to Landfill Unit for disposal (4 men x 5 days) • 20 Mandays @ $115/Manday (CIVIL Eng. & Env. - Westlake, LA.)	2,300
Labor: Loading and transfer of tanks and associated equipment to the Landfill Unit for disposal • DJB Operator 5 mandays @ $115/day • Cherrypicker Operator 5 mandays @ $115/day (CIVIL Eng. & Env. - Westlake, LA.)	575 575
Equipment: Rental of equipment for removal and transport of tanks and associated equipment to the Landfill Unit for disposal • DJB 5 days @ $1200/day (LA Machinery - Lake Charles, LA.) • Cherrypicker 5 days @ $250/day (CIVIL Eng. & Env. - Westlake, LA.)	6,000 1,250
Labor: Decontamination of floor, sumps and remaining equipment and removal and salvage of stabilization and filling reagent (2 men x 2 days) • 4 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	460

TABLE C
FINAL UNPLANNED CLOSURE COST ESTIMATE
DRUM DECANT AND FILLING UNIT

Closure Activity	Cost
Analyses: Analyses of decontamination wash water for evaluation with decontamination criteria • 3 samples @ $1200/set of analyses (Analytical and Consulting Services - Sulphur, LA.)	3,600
Off-site Disposal: Deepwell disposal of decontamination washwater • 3,000 gals @ $0.15/gal (Rollins Environmental Services - Bayou Sorrell, LA.)	450
Transportation: 3,000 gallons of washwater to off-site disposal • 1 load @ $375/load (Environmental Trucking Company - Sulphur, LA.)	375
Supplies: Personnel Protective Equipment • 60 mandays @ $50/manday (ORR Safety Equipment - New Orleans, LA.)	3,000
Equipment Rental: • Cutting Rig: 8 workdays @ $50/day (Dixie Supply - Sulphur, LA.) • Hot Water Pressure Washer: 4 workdays @ $100/day (Power Equipment - Lake Charles, LA.)	400 400
1995 TOTAL	35,160.00

TABLE D FINAL UNPLANNED CLOSURE COST ESTIMATE BULK LIQUIDS PROCESSING AND AQUEOUS WASTE TREATMENT UNITS	
Closure Activity	Cost
Labor: Remove and load 129,000 gallons of waste fuels or wastes for transport to off-site users (contents of tanks T-206,T-210, T-211,T-213,T-214 and T-215) or off-site treatment (contents of tank T-212) or transport to off-site incineration (contents of tank T-208) • 9 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	1,035
Transportation: 93,000 gallons of waste fuels to off-site users • 19 loads @ $375/load (Environmental Trucking Company - Sulphur, LA.)	7,125
Off-site Use: Fee paid to off-site users for 93,000 gallons of waste fuels at $0.03/pound • 93,000 gal @ 8.5 lb/gal @ $0.03/lb (Rollins Environmental - Deer Park, TX.)	23,715
Transportation: 16,000 gallons of aqueous waste (Tank T-212) to CWMI, Emelle, AL. for treatment and disposal • 4 loads @ $1,400/load (Environmental Trucking Company - Sulphur, LA.)	5,600
Off-site Treatment: 16,000 gallons of aqueous waste (Tank T-212) • 16,000 gals @ $1.80/gal (CWM - Emelle, AL.)	28,800
Labor: Remove and load 20,000 gallons of fuel blending wastewater from tank T-208 for transport to off-site incineration • 2 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	230
Transportation: 20,000 gallons of fuel blending wastewater to off-site incineration • 4 loads @ $375/load (Environmental Trucking Company - Sulphur, LA.)	1,500
Off-site Disposal: Incineration of fuel blending wastewater • 20,000 gal @ 8.5 lb/gal @ $0.230/lb (Rollins Environmental - Deer Park, TX.)	39,100
Transportation: 30,000 gallons of washwater • 6 loads @ $375/load (Environmental Trucking Company - Sulphur LA.)	2,250
Off-Site Treatment: Incineration of 30,000 gallons of washwater • 30,000 gals x 8.5 lb/gal x 0023/lbs (Rollins Environmental - Deer Park, TX.)	58,650
Labor: Decontaminate tanks T-206,T-208,T-210,T-211,T-212,T-213,T-214, and T-215 by washing. (4 men X 2 days) • 8 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	920

TABLE D FINAL UNPLANNED CLOSURE COST ESTIMATE BULK LIQUIDS PROCESSING AND AQUEOUS WASTE TREATMENT UNITS	
Closure Activity	Cost
Labor: Removal of tanks T-206, T-208,T-210,T-211,T-212,T-213,T-214, and T-215, components of the Aqueous Waste Treatment Unit, and associated piping, pumps, valves, and carbon filters for transfer to the Landfill Unit for disposal (4 men x 10 days) • 40 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	4,600
Labor: Decontamination of floor and sumps of Bulk Unloading/Loading Unit and removal and salvage reagent in the Aqueous Waste Treatment Unit • 4 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	460
Analyses: Analyses of decontamination washwater for evaluation with decontamination criteria • 5 samples @ $1200/set of analyses (Anaylitcal and Consulting Services - Sulphur, LA.)	6,000
Labor: Loading and transfer of tanks and associated equipment to the Landfill Unit for disposal • DJB Operator 10 mandays @ $115/day • Cherrypicker Operator 10 mandays @ $115/day (CIVIL Eng. & Env. - Westlake, LA.)	1,150 1,150
Equipment: Rental of equipment for removal and transfer of tanks and associated equipment to the Landfill Unit for disposal • DJB 10 days @ 1,200/day (LA Machinery - Lake Charles, LA.) • Cherrypicker 10 days @ $250/day (Headon Engineering - Lake Charles, LA.) • Pickup Truck 10 days @ $20/day (CIVIL Eng. & Env. - Westlake, LA.)	12,000 2,500 200
Transportation: 5,000 gallons of decontamination washwater to off-site deepwell disposal • 1 load @ $375/load (Environmental Trucking Company - Sulphur, LA.)	375
Off-site Disposal: Deepwell disposal of decontamination washwater • 5,000 gals @ $0.15/gal (Rollins Environmental Services - Bayou Sorrell, LA.)	750
Labor: Removal of secondary containment systems for tanks T-206 through T-215 for transfer to the Landfill Unit for disposal (2 men x 10 days) • 20 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	2,300

TABLE D FINAL UNPLANNED CLOSURE COST ESTIMATE BULK LIQUIDS PROCESSING AND AQUEOUS WASTE TREATMENT UNITS	
Closure Activity	Cost
Labor: Loading and transfer of secondary containment for tanks T-206 through T-215 to the Landfill Unit for disposal	
° Rubbertired jackhammer Operator 20 mandays @ $115/day	2,300
° Frontend loader Operator 10 mandays @ $115/day	1,150
° DJB Operator 10 mandays @ $115/day	1,150
(CIVIL Eng. & Env. - Westlake, LA.)	
Equipment: Loading and transfer of secondary containment for tanks T-206 through T-215 to the Landfill Unit for disposal	
° Rubbertired jackhammer Operator 2 units x 10 days @ $500/day	10,000
(LA Machinery - Lake Charles, LA.)	
° Frontend loader 1 unit x 10 days @ $500/day	5,000
(CIVIL Eng. & Env. - Westlake, LA.)	
° DJB 1 unit x 10 days @ $1,200/day	12,000
(LA Machinery - Lake Charles, LA.)	
° Pickup truck 10 days @ $20/day	200
(CIVIL Eng. & Env. - Westlake, LA.)	
Supplies: Personnel protective equipment	
° 130 mandays @ $50/manday	6,500
(ORR Safety Equipment - New Orleans, LA.)	
Other Equipment Rental:	
° Cutting Rig: 10 workdays @ $50/day	500
(Dixie Supply - Sulphur, LA.)	
° Hot Water Pressure Washer: 2 workdays @ $100/day	200
(Power Equipment - Lake Charles, LA.)	
1995 TOTAL	239,410

TABLE E
FINAL UNPLANNED CLOSURE COST ESTIMATE
STABILIZATION UNIT

Closure Activity	Cost
Off-site Disposal: Treatment and disposal of 20,800 gals of waste in South Waste Water Tank (T-306) • 20,800 gal @ $1.80/gal = CWM - Lake Charles, LA. - Owner/Operator Experience)	37,440
Off-Site Disposal: Treatment and disposal of 23,600 gallons of wastes in the mixing basins (includes equipment, operator and reagents) • 23,600 gals @ $1.80/gal (CWM - Lake Charles, LA.; Owner/Operator Experience)	42,480
Transportation: Contents of South Waste Water Tank and mixing basins (T-303, T-304 and T-306) to off-site treatment and disposal at CWMI-Emelle, AL. • 10 loads @ 1,400/load (Environmental Trucking Company - Sulphur, LA.)	1,400
Labor: Removal of the mixing basins and their secondary containment systems, heavily contaminated soil (Contingent Closure) for transfer to the Landfill Unit for disposal • 40 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	4,600
Labor: Decontamination of floor and interior walls and T-306 secondary containment; removal and salvage of stabilization reagent in the storage feed silos; backfill and concrete openings • 100 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	11,500
Analyses: Analyses of decontamination washwater for evaluation with decontamination criteria • 8 samples @ $1200/set of analyses (Anayltical and Consulting Services - Sulphur LA.)	9,600
Transportation: 8,000 gallons of decontamination washwater to off-site deepwell disposal • 2 loads @ $375/load (Environmental Trucking Company - Sulphur, LA.)	750
Off-site Disposal: deepwell disposal of decontamination washwater • 8,000 gals @ $0.15/gal (Rollins Environmental Services - Bayou Sorrell, LA.)	1,200

TABLE E
FINAL UNPLANNED CLOSURE COST ESTIMATE
STABILIZATION UNIT

Closure Activity	Cost
Supplies:	
∘ personnel protective equipment: 150 mandays @ $50/manday (ORR Safety Equipment - New Orleans, LA.)	7,500
∘ concrete: 16 yd^3 @ $50/$yd^3$ (Dunham Price - Lake Charles, LA.)	800
∘ rebar & wire mesh: for two 18'x12'x1' openings (Stine Lumber Co. - Sulphur, LA.)	200
Equipment Rental:	
∘ cutting rig: 2 rigs x 5 workdays @ $50/day (Dixie Supply - Sulphur, LA.)	500
∘ hot water pressure washer: 2 units x 3 workdays @ $100/day (Power Equipment - Lake Charles, LA.)	600
Labor: Removal of mixing basins, secondary containment and fill. Replace fill and concrete	
∘ 30 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	3,450
Labor: Loading and transfer of mixing basins, secondary containment system and soils to Landfill Unit	
∘ DJB Operator 5 mandays @ $115/day	575
∘ Frontend loader/backhoe 5 mandays @ $115/day	575
∘ Rubbertired jackhammer Operator @ $115/day (CIVIL Eng. & Env. - Westlake, LA.)	575
Equipment: Rental of equipment for removal and transport of basins, secondary containment and soils to Landfill Unit	
∘ DJB 5 days @ $1,200/day (LA Machinery - Lake Charles, LA.)	6,000
∘ Frontend loader/backhoe 5 days @ $500/day (CIVIL Eng. & Env. - Westlake, LA.)	2,500
∘ Rubbertired jackhammer 5 days @ $500/day (LA Machinery - Lake Charles, LA.)	2,500
1995 TOTAL	134,745

TABLE F
FINAL UNPLANNED CLOSURE COST ESTIMATE
WASTEWATER HOLDING TANK

Closure Activity	Cost
Labor: Removal and loading of the two 1,000,000 gallons of wastewater tanks T-501 and T-502 (operating capacity 956,555 gals each) • 17 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	1,955
Transportation: 1,913,110 gallons of wastewater to off-site deepwell disposal • 382 loads @ $375/load (Environmental Trucking Company - Sulphur, LA.)	143,250
Off-site Disposal: Deepwell disposal of two million gallons of wastewater in tank T-501and T-502 • 1,913,110 gals @ $0.15/gal (Rollins Environmental Services - Bayou Sorrell, LA.)	286,967
Labor: Removal of tanks T-501 and T-502 and associate piping, pumps and valves for transfer to the Landfill Unit for disposal • 120 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	13,800
Labor: Decontamination of floor and sumps of the Wastewater Loading/Unloading Unit • 2 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	230
Analyses: Analyses of decontamination washwater for evaluation with decontamination criteria • 3 samples @ $1200/set of analyses (Analytical and Consulting Sevices - Sulphur, LA.)	3,600
Transportation: 3,000 gallons of decontamination washwater to off-site deepwell disposal • 1 load @ $375/load (Environmental Trucking Company - Sulphur, LA.)	585
Off-site Disposal: Deepwell disposal of decontamination washwater • 3,000 gals @ $0.15/gal (Rollins Environmental Services - Bayou Sorrell, LA.)	450

TABLE F
FINAL UNPLANNED CLOSURE COST ESTIMATE
WASTEWATER HOLDING TANK

Closure Activity	Cost
Supplies: • personnel protective equipment: 97 mandays @ $50/day (ORR Safety Equipment - New Orleans, LA.) • grass seed: 300 lbs/acre x 2 acres @ $.25/lb (Contingent Closure) (Gulf Coast Farmer's Coop. - Iowa, LA.)	4,850 150
Labor: Loading and transfer of tanks, T-501 and T-502, associated piping, pumps, valves and containment to Landfill Unit for disposal • DJB Operator 10 mandays @ $110/day • 2 Cherrypicker Operators 20 mandays @ $110/day • Backhoe Operator 10 mandays @ $110/day • 2 Rubbertired jackhammer Operators 20 mandays @ $110/day (CIVIL Eng. & Env. - Westlake, LA.)	1,100 2,200 1,100 2,200
Equipment: Rental of equipment for removal and transport of tanks, pumps, piping and associated equipment including secondary containment to Landfill Unit for disposal • DJB Operator 10 days @ $1,200/day (LA Machinery - Lake Charles, LA.) • Cherrypicker 2 units x 10 days @ $250/day (Headon Engineering - Lake Charles, LA.) • Frontend loader/backhoe 10 days @ $500/day (CIVIL Eng. & Env. - Westlake, LA.) • Rubbertired jackhammer 10 days @ $500/day (LA Machinery - Lake Charles, LA.) • Cutting 4 units x 10 days @ $50/day (Dixie Supply) • Pickup Truck 10 day @ $20/day (CIVIL Eng. & Env. - Westlake, LA.)	12,000 5,000 5,000 5,000 2,000 200
Supplies: Equipment Rental; hot water pressure washer • 1 workday @ $100/day (Power Equipment - Lake Charles, LA.) • 1 workday @ $250/day/tractor w/seed spreader (Hertz - Lake Charles, LA.)	100 250
1995 TOTAL	491,987

TABLE G
FINAL UNPLANNED CLOSURE COST ESTIMATE
WASTEWATER TREATMENT PILOT PLANT

Closure Activity	Cost
Labor: Remove and load 1,175 gallons of wastewater from WTPP for transfer to off-site disposal • **1 manday @ $115/manday** **(CIVIL Eng. & Env. - Westlake, LA.)**	**115**
Transportation: 5,175 gallons of wastewater (4,000 from tank truck and 1,175 from WTPP) to off-site deepwell disposal • **2 loads @ $375/load** **(Environmental Trucking Company - Sulphur, LA.)**	**750**
Off-site Disposal: Deepwell disposal of 5,175 gallons of wastewater • 5,175 @ $0.15/gal (Rollins Environmental Services - Bayou Sorrell, LA.)	776
Labor: Decontamination of WTPP processing equipment and secondary containment (leave in place) • 4 manday @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	460
Analyses: Analyses of decontamination washwater for evaluation with decontamination criteria • 1 sample @ $1200/set of analyses (Analylical and Consulting Services - Sulphur, LA.)	1,200
Transportation: 1,000 gallons of decontamination washwater to off-site deepwell disposal • 1 load @ $375/load (Environmental Trucking Company - Sulphur, LA.)	375
Off-site Disposal: Deepwell disposal of decontamination washwater • 1,000 gals @ $0.15/gal (Rollins Environmental Services - Bayou Sorrell, LA.)	150
Supplies: Personnel protective equipment • 2 mandays @ $50/manday (ORR Safety Equipment - New Orleans, LA.)	100

TABLE G FINAL UNPLANNED CLOSURE COST ESTIMATE WASTEWATER TREATMENT PILOT PLANT	
Closure Activity	Cost
Equipment Rental: • Hot water pressure washer 1 workday @ $100/day (Power Equipment - Lake Charles, LA.) • Dump truck 1 workday @ $280/day (CIVIL Eng. & Env. - Westlake, LA.) • Cherrypicker 1 workday @ $250/day (Headon Engineering - Lake Charles, LA.)	 100 280 250
1995 TOTAL	4,556

TABLE H FINAL UNPLANNED CLOSURE COST ESTIMATE TRUCKWASH UNIT	
Closure Activity	Cost
Labor: Remove and load 27,462 gallons of washwater from tanks T-101 and T-102 and for transfer to off-site disposal • 2 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	230
Transportation: 27,462 gallons of washwater to off-site deepwell disposal • 6 loads @ $375/load (Environmental Trucking Company - Sulphur, LA.)	2,250
Off-site Disposal: Deepwell disposal of 27,462 gallons of washwater • 33,300 gals @ $0.15/gal (Rollins Environmental Services - Bayou Sorrell, LA.)	4,120
Labor: Removal and salvage of truckwash equipment: removal of tank T-101, T-102 and truckwash pad and sump, any contaminated soil for transfer to the Landfill Unit for disposal • 16 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	1,840
Labor: Loading and transfer of truckwash equipment to Landfill Unit for disposal • DJB Operator 2 mandays @ $115/manday • Rubbertired jackhammer operator 2 mandays @ $115/manday • Frontend loader/backhoe 2 mandays @ $115/manday • Cherrypicker Operator 2 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	230 230 230 230
Equipment: Rental of equipment for removal and transport of truckwash equipment to Landfill Unit for disposal • DJB Operator 2 days @ $1,200/day (LA Machinery - Lake Charles, LA.) • Rubbertired jackhammer 2 days @ $500/day (LA Machinery - Lake Charles, LA.) • Frontend loader/backhoe 2 days @ $500/day (CIVIL Eng. & Env. - Westlake, LA.) • Cherrypicker 2 days @ $250/day (Headon Engineering - Lake Charles, LA.)	2,400 1,000 1,000 500
Supplies: personnel protective equipment • 26 mandays @ $50/manday (ORR Safety Equipment - New Orleans, LA.)	1,300
Equipment Rental: • cutting rig: 8 workdays @ $50/day (Dixie Supply - Sulphur, LA.)	400
1995 TOTAL	15,960

TABLE I
FINAL UNPLANNED CLOSURE COST ESTIMATE
TRANSPORTATION STAGING AREA

Closure Activity	Cost
Transportation: 80 boxes of miscellaneous waste (solids) to off-site incineration • 80 loads @ $375/load (Environmental Trucking Company - Sulphur, LA.)	30,000
Off-site Incineration: Incineration of 80-20 yd boxes of burnable waste • 80 boxes x 20yd/box x 2000lb/yd x $0.72/lb (Rollins Environmental - Deer Park, TX.)	2,304,000
Labor: Decontamination of floor and sumps of transportation staging area • 8 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	920
Analyses: Analyses of decontamination water for evaluation with decontamination criteria • 10 samples @ $1200/analysis (Analytical and Consulting Services - Sulphur, LA.)	12,000
Transportation: 10,000 gallons of washwater • 2 loads @ $375/load (Universal Trucking Company - Sulphur, LA.)	750
Off-site Disposal: Deepwell disposal of decontamination washwater • 10,000 gals @ $0.15/gal (Rollins Environmental Services - Bayou Sorrell, LA.)	1,500
Supplies: Personal protective equipment • 13 mandays @ $50/manday (ORR Safety Equipment - New Orleans, LA.)	650
Equipment Rental: Hot water pressure washer • 4 workdays @ $100/day (Power Equipment - Lake Charles, LA.)	400
1995 TOTAL	2,350,220

TABLE J FINAL UNPLANNED CLOSURE COST ESTIMATE LANDFILL UNITS	
Closure Activity	Cost
Final Cover: Installation of the final cover on the filled but uncovered modules: • 81,283 sq.yd. @ $50/sq.yd.*	4,064,150
Landfill Operation: Operation of the active module for 108 days while receiving closure-generated wastes and backfill • 216 mandays @ $115/manday	24,840
Disassembly of landfill wheelwash and movement to desired location in landfill for disposal • 40 mandays @ $115/manday	4,600
Backfill: backfilling of unused capacity (to ground-level elevation plus crown) of the active module • 375,000 cy @ $3.00/cy**	1,125,000
Final Cover: installation of the final cover on the active module after backfill • 40,641 sq.yd. @ $50/sq.yd.*	2,032,050
Supplies: personal protective equipment • 216 mandays @ $50/manday (ORR Safety Equipment - New Orleans, LA.)	10,800
1995 TOTAL	7,261,440

*Includes: grading of waste; transport and installation of clay; installation and cost of HDPE liner, geonet and geotextile; drainage channel at foot of cover, installation of topsoil; seeding and fertilizing; all surveying; CWM equipment and rental equipment; contract operators and laborers.
(CIVIL Eng. & Env. - Westlake, LA; National Seal - Houston, TX; Vernon F. Meyer & Associates - Sulphur, LA; Golder Associates - Atlanta, GA; CWM - Lake Charles, LA; Owner/Operator experience)

**Includes: transport and placement of backfill using CWM equipment and rental equipment, contract operators and laborers and all surveying
(CIVIL Eng. & Env. - Westlake, LA; Vernon F. Meyer & Associates - Sulphur, LA; CWM - Lake Charles, LA; Owner/Operator experience)

TABLE K FINAL UNPLANNED CLOSURE COST ESTIMATE OTHER CLOSURE ACTIVITIES	
Closure Activity	Cost
Labor: Removal of superstructure of Truck Sampling Station and transfer to Landfill Unit for disposal • 12 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	1,380

TABLE K
FINAL UNPLANNED CLOSURE COST ESTIMATE
OTHER CLOSURE ACTIVITIES

Closure Activity	Cost
Labor: Sampling roadways and truck staging areas • 5 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	575
Equipment: Sweeping all of the paved roads and off-loading the sweepings in the Landfill Unit • 1 workday @ $250/day/sweeper (CWM-Lake Charles, LA.; Owner/Operator Experience)	250
Soil Removal: Removal of top 6 inches of surface material on unpaved roadways and truck staging areas and transfer to the Landfill Unit for disposal - includes labor and equipment. • 2,000 cy @ $3.00/cy (CIVIL Eng. & Env. - Westlake, LA.)	6,000
Soil Samples: Analysis of soil samples taken from unpaved roadways and truck staging areas • 20 samples @ $1500/sample (Analytical and Consulting Services - Sulphur, LA.)	30,000
Laboratory: Lab-packing of wastes for transfer to off-site incineration for disposal; removing and salvaging chemicals; decontamination of the laboratory; loading overpacks on truck for off-site shipment • 12 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	1,380
Transportation: 40 labpacks to off-site treatment • 1 load @ $375/load (Environmental Trucking Company - Sulphur, LA.)	375
Off-site Treatment: Incineration of 40 lab packs • 40 drums @ $475/drum (Rollins Environmental - Deer Park, TX.)	19,000
Labor: Remove and load 5,500,000 gallons of leachate and contaminated rainwater for transfer to off-site disposal • 180 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	20,700
Transportation: 5,500,000 gallons of leachate and contaminated rainwater to off-site deepwell disposal • 1,100 loads @ $375/load (Environmental Trucking Company - Sulphur, LA.)	412,500

TABLE K FINAL UNPLANNED CLOSURE COST ESTIMATE OTHER CLOSURE ACTIVITIES	
Closure Activity	Cost
Off-site Disposal: Deepwell disposal of 5,500,000 gallons of potentially contaminated rainwater from the active module of the Landfill Unit and unroofed secondary containment systems until removed, and collected leachated from the Landfill Unit • 5,500,000 gals @ $0.15/gal (Rollins Environmental Services - Bayou Sorrel, LA.)	825,000
Equipment: Maintenance of the final covers on closed Landfill Units • 10 workdays @ $250/day/tractor & bushhog (CWM - Lake Charles, LA.; Owner/Operator Experience)	2,500
Labor: Equipment operator for tractor/bushhog and street sweeper • 10 mandays @ $115/manday (CIVIL Eng. & Env. - Westlake, LA.)	1,150
Labor: Sampling of 28 ground-water wells twice during closure period • 14 mandays @ $500/manday (Analytical and Consulting Services - Sulphur, LA.)	7,000
Groundwater Analysis: Analysis of 56 groundwater samples + 20 tripblanks + 6 field blanks + 6 duplicates • 88 samples @ $460/sample (WMI - EML - Geneva,IL.)	40,480
Management and Administration: Overall management and administration of closure activities by third party contractor for 180 days. QA of landfill cover during final cover installation Table J. • 450 mandays @ $540/manday (RUST Engineering - Baton Rouge, LA.)	243,000

TABLE K
FINAL UNPLANNED CLOSURE COST ESTIMATE
OTHER CLOSURE ACTIVITIES

Closure Activity	Cost
Inspection and Certification: Three 6-hour inspections per week by an independent professional engineer during the 180 day closure period plus issuance of a certification • 468 hours @ $100/hour (RUST Engineering - Baton Rouge, LA.)	46,800
Supplies: Personal protective equipment • 1,200 mandays @ $50/manday (ORR Safety Equipment - New Orleans, LA.)	60,000
1995 TOTAL	1,718,090

TABLE L OVERALL FINAL UNPLANNED CLOSURE COST ESTIMATE		
Table	Closure Activity	Cost
B	Container Management Units	2,166,335
C	Drum Decant and Filling Unit	37,385
D	Bulk Liquids Processing and Aqueous Waste Treatment Units	239,410
E	Stabilization Units	134,745
F	Wastewater Holding Tank	491,987
G	Wastewater Treatment Pilot Plant	4,556
H	Truckwash Unit	15,960
I	Transportation Staging Area	2,350,220
J	Landfill Unit	7,261,440
K	Other Closure Activities	1,718,090
	SUBTOTAL	14,420,128
	CONTINGENCY (10%)	1,442,013
	1995 GRAND TOTAL	15,862,141

TABLE M

CLOSURE COST SUMMARY

MARCH 1995

CLOSURE ACTIVITY	COST (DOLLARS)			EST. YEAR OF CLOSURE
	1993	1994	1995	
Container Management Units	1,790,197	2,166,335	2,166,335	2015
Drum Decant and Filling Unit	231,605	37,385	35,160	2015
Bulk Liquids Processing and Aqueous Waste Treatment Units	141,195	239,410	239,410	2015
Stabilization Unit	54,190	134,745	134,745	2015
Wastewater Holding Tank	253,155	491,737	491,987	2015
Wastewater Treatmentn Pilot Plant	3,911	4,556	4,556	2015
Truckwash Unit	34,060	15,960	15,960	2015
Transportation Staging Area	1,819,640	2,230,220	2,350,220	2015
Landfill Unit	7,290,880	7,261,440	7,261,440	
Other Closure Activities	1,783,555	1,718,090	1,718,090	
SUBTOTAL	13,402,388	14,419,878	14,420,128	
CONTINGENCY (10%)	1,340,239	1,441,988	1,442,013	
GRAND TOTAL	14,742,627	15,861,866	15,862,141	

LAKE CHARLES FACILITY

POST-CLOSURE COST ESTIMATE

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A. INTRODUCTION

This document provides the Post-Closure Estimate for Chemical Waste Management's (CWM's) Lake Charles Facility, as required by LAC33:V.4405 of the Louisiana Hazardous Waste Regulations (LHWR). This estimate is based on the post-closure activities delineated in the Post-Closure Plan for the facility, which is incorporated by reference as part of the document.

This estimate will be reviewed for current cost or adjusted annually for inflation until final closure is completed in accordance with the requirements of LAC33:V.4405 of the LHWR. Also, it will be modified whenever the Post-Closure Plan is modified in such a way as to effect this estimate.

A copy of this estimate, with any modifications made to it, will be maintained at the facility at all times until closure of the facility is completed. After closure of the facility is completed, a copy of this estimate, with any modifications made to it, will be maintained at CWM's Corporate Headquarters in Oak Brook, Illinois (see Section B of the Post-Closure Plan for address and telephone number of this office).

This estimate is based on the following assumptions:

1) It assumes that all of the Landfill Cells 5, 6, 7, 8 and 14 will have been filled with wastes and closed and tank systems requiring Contingent Closure exist, therefore, will present the maximum area of final covers to be maintained.

2) It assumes that Landfill Cell 5 will continue to generate its current rate of leachate (500 gals/day), even though this rate could decrease to a lower-steady-state amount when this cell loses the excess rainwater it acquired during operation before placement of the final cover.

3) It assumes the maximum post-closure generation of leachate from the dewatering of Landfill Cells 6, 7, 8 and 14 by assuming the post-closure dewatering of the largest of these cells, Landfill Cell 6.

4) It assumes that the post-closure activities will be performed by a third party contractor, even though it is likely that CWM will perform these activities.

5) It assumes that the length of the workday for the routine daily inspections average 5 hours (manday), which includes the quarterly and semi-annual inspections and the length of the workday for the certification inspections average 10 hours (manday).

6) It assumes that the length of the workday for the groundwater sampling team is 10 hours.

A separate cost estimate is given for each set of activities delineated in the Section C of the Post-Closure Plan. These separate cost estimates are provided in Tables 1 through 5. These cost estimates are aggregated in Table 6 to provide the total estimated cost of post-closure care of the facility.

TABLE 1
POST-CLOSURE COST ESTIMATE
SCHEDULED INSPECTIONS

Post-Closure Activity	Cost
Labor for daily, quarterly and semi-annually inspections of the facility in accordance with the Post-Closure Inspection Schedule • 365 mandays/year x 30 years @ $140/manday* (CIVIL Engineering & Environmental - Westlake, LA.)	1,533,000
Transportation: • 365 inspections/year x 30 years @ 40 miles/inspection x $0.29/mile (CIVIL Eng. & Env.- Westlake, LA.; Internal Revenue Service)	131,400
Annual Certification: one, three day inspection each year by an independent registered professional engineer to review the facility and the previous year's inspection and maintenance records • 3 mandays/year x 30 years @ $1000/manday (RUST Engineering, Baton Rouge, LA.)	90,000
Transportation: • 1 inspection/year x 30 years @ 500 miles/inspection x $0.29/mile (RUST Engineering, Baton Rouge, LA.; Internal Revenue Service)	4,500
Final Certification: one, three day inspection at the end of the post-closure care period by an independent registered PE engineer to review the facility and the 30 annual post-closure certifications • 3 mandays/30 year period @ $1000/manday (RUST Engineering, Baton Rouge, LA.)	3,000
Transportation: • 1 inspection/30 year period @ 500 miles/inspection x $0.29/mile (RUST Engineering, Baton Rouge, LA.; Internal Revenue Service)	150
1995 TOTAL	1,762,050

*The quarterly and semi-annual inspections are conducted by the individual that performs the daily inspections.

TABLE 2
POST-CLOSURE COST ESTIMATE
MAINTENANCE OF FINAL COVERS, DRAINAGE CHANNELS AND SURVEYING

Post-Closure Activity	Cost
Labor and Equipment: Mowing of final covers two times per year • 210 acres x 4 time/year x 5 years @ $13/acre (A.D. Ballard, Co. - Moss Bluff, LA.)	54,600
• 210 acres x 2 time/year x 25 years @ $13/acre (A.D. Ballard, Co. - Moss Bluff, LA.)	136,500

TABLE 2
POST-CLOSURE COST ESTIMATE
MAINTENANCE OF FINAL COVERS, DRAINAGE CHANNELS AND SURVEYING

Post-Closure Activity	Cost
Labor and Equipment: Mowing of flood control levee • 10 acres x 4 time/year x 5 years @ $13/acre (A. D. Ballard, Co. - Moss Bluff, LA.) • 10 acres x 2 time/year x 25 years @ $13/acre (A. D. Ballard, Co. - Moss Bluff, LA.)	2,600 6,500
Labor and Equipment: Bush-hogging of drainage channels two times per year • 10 acres x 4 time/year x 5 years @ $13/acre (A. D. Ballard, Co. - Moss Bluff, LA.) • 10 acres x 2 time/year x 25 years @ $13/acre (A.D. Ballard, Co. - Moss Bluff, LA.)	2,600 6,500
Labor and Equipment: Removal of deep rooted plants and control of burrowing animals • 8 mandays/year x 5 years @ $230/manday (CIVIL Engineering & Environmental, Westlake, LA.) • 4 mandays/year x 25 years @ $230/manday (KAB Construction - Westlake, LA.)	9,200 23,000
Material: Filling depressions and areas damaged by erosion (based on an aggregate of 3 acres requiring repair each year) • 1,500 cy topsoil/year x 30 years @ $8/cy (CIVIL Engineering & Environmental, Westlake, LA.)	360,000
Material: Reseeding of filled and bare areas of landfill and erosion repair areas of flood control levee • 5 acres/year x 30 years @ 300 lb/acre @ $.25/lb (Gulf Coast Farmers Coop - Iowa, LA.)	11,250
Material: Repairing excessive erosion and any blockages of drainage channels • 100 cy clay/year x 30 years @ $6/cy (CIVIL Engineering & Environmental, Westlake, LA.)	18,000
Labor: Equipment operator to reseed bare areas of landfills and flood control levee • 40 mandays @ $340/manday (CIVIL Engineering & Environmental, Westlake, LA.)	13,600

TABLE 2
POST-CLOSURE COST ESTIMATE
MAINTENANCE OF FINAL COVERS, DRAINAGE CHANNELS AND SURVEYING

Post-Closure Activity	Cost
Equipment: • Tractor with seed spreader - 40 workdays @ $250/day (Hertz Equipment - Lake Charles, LA.) • Bulldozer - 100 workdays @ $65/day (CIVIL Engineering & Environmental - Westlake, LA.)	10,000 56,500
Labor: Equipment operators to operate bull dozers to raise levee, work on drainage channels, fill depressions and erosion areas on landfills • 110 mandays @ $160/manday (CIVIL Engineering & Environmental, Westlake, LA.)	17,600
Material: Raising flood control levee 1 foot in 20 years to compensate for subsidence or soil loss (one time during post-closure care period) • Clay brought in from off-site - 5,000 cy at $6/cy (CIVIL Engineering & Environmental, Westlake, LA.)	30,000
Labor: Annual survey of flood control levee and benchmarks • once/year for 30 years @ $4,500/year (Vernon Meyer and Associates - Sulphur, LA.)	135,000
1995 TOTAL	893,450

TABLE 3
POST-CLOSURE COST ESTIMATE
REMOVAL OF LEACHATE

Post-Closure Activity	Cost
General utilities for automated pumping of leachate from collection and detection systems into the leachate collection tanks (based on 72 pumps running 4 hours/day drawing a total of 450 kilowatt-hours per day) • 450 kilowatt-hours/day x 365 days x 30 years x $0.070/kilowatt-hour (Gulf States Utilities - Sulphur, LA.)	344,925
Transportation of 8,267,250 gallons of leachate to an off-site hazardous waste deepwell disposal facility in 5,000 gal/loads. • 1,654 loads @ $375/load (Rollins Environmental Services - Bayou Sorrel, LA.)	620,250
Disposal of leachate at the off-site hazardous waste deepwell disposal facility • 8,267,250 gallons @ $0.15/gal (Rollins Environmental Services - Bayou Sorrel, LA.)	1,240,088
1995 TOTAL	2,205,263

Note:

Electricity		Leachate	
Cell 5	4 Pumps	Cell 5	500 gal/day
Cell 14	12 Pumps	Cell 14	50 gal/day
Cell 6	24 Pumps	Cell 6	70 gal/day
Cell 7	12 Pumps	Cell 7	65 gal/day
Cell 8	20 Pumps	Cell 8	70 gal/day
	72		755 gal/day x 365 x 30yrs.= 8,267,250 gallons

TABLE 4
POST-CLOSURE COST ESTIMATE
MAINTENANCE OF FACILITY FENCE, BENCHMARKS AND TANKS

Post-Closure Activity	Cost
Labor: Annual tank integrity testing for leachate tanks T901 - T904 • 6 tanks x 30 years @ $600/tank (Levingston Engineers - Sulphur, LA.)	108,000
Labor and Equipment: painting and minor repair work to tanks and benchmarks • 20 mandays/yr x 30 yrs x $230/manday (CIVIL Engineering & Environmental, Westlake, LA.)	138,000
Labor, Equipment and Material: Tank replacement once each during the 30 year post-closure period, including all transportation and installation costs • 6 tanks @ $35,000/tank (Lide Tank - Mexia, TX.)	210,000
Labor, Equipment and Material: Repair of minor damages to fence and gates • 30 years @ $3,000/year (River's Fence Co. - Lake Charles, LA.)	90,000
Labor, Equipment and Material: Replacement of fence and gates sometime during the post-closure period • 21,120 feet @ $12/foot (River's Fence Co. - Lake Charles, LA.)	253,440
1995 TOTAL	799,440

Note:

Leachate Tanks

Cell	Tank
5	T-905 Cell 6
14	T-903
6	T-904, T-905
7	T-904 New
8	2 New Tanks

TABLE 5
POST-CLOSURE COST ESTIMATE
GROUNDWATER MONITORING

Post-Closure Activity	Cost
Labor and equipment: Sample monitoring wells (based on two samplers taking 30 days to sample 77 wells during each semi-annual sampling event • 60 workdays/year x 30 years @ $440/workday includes equipment, supplies and expenses (Analytical and Consulting Services - Sulphur, LA.)	792,000
Laboratory analysis of samples • 246 samples/year x 30 years @ $460/sample (WMI's EML - Geneva, IL.)	3,394,800
Statistical evaluation and submission of annual results • 20 hours/year x 30 years @ $100/hour (RUST Engineering, Baton Rouge, LA.)	60,000
1995 TOTAL	4,246,800

53 Wells on west side of John Brannon Road for Cells 5, 6, 7 and 14
24 Wells on east side of John Brannon Road for Cell 8
77 Total Groundwater Wells Monitored

30 Trip Blanks
8 Field Blanks
8 Duplicate
123 Total Analysis/Sample Period

TABLE 6
TOTAL POST-CLOSURE COST ESTIMATE

Post-Closure Activity	Cost
Scheduled Inspections	1,762,050
Maintenance of Final Covers and Drainage Channels	893,450
Removal of Leachate	2,205,263
Maintenance of Facility Fence and Benchmarks	799,440
Groundwater Monitoring	4,246,800
SUB-TOTAL	9,907,003
CONTINGENCY (10%)	990,700
1995 GRAND TOTAL	10,897,703

POST-CLOSURE COST SUMMARY

MARCH 1995

POST-CLOSURE ACTIVITY	COST (DOLLARS)		
	1993	1994	1995
Scheduled Inspections	1,759,112	1,757,515	1,762,050
Maintenance of Final Covers and Drainage Channels	852,200	893,450	893,450
Removal of Leachate	2,016,810	2,205,263	2,205,263
Maintenance of Facility Fence and Benchmarks	532,220	799,440	799,440
Groundwater Monitoring	3,195,000	4,246,800	4,246,800
SUBTOTAL	8,355,342	9,902,468	9,907,003
CONTINGENCY (10%)	835,534	990,247	990,700
GRAND TOTAL	9,190,876	10,892,715	10,897,703

ATTACHMENT 7

OPERATING RECORDS AND REPORTING

ATTACHMENT 7

OPERATING RECORDS AND REPORTING

ATTACHMENT 7

OPERATING RECORD AND REPORTING REQUIREMENTS

I. OPERATING RECORD AND REPORTING REQUIREMENTS

The Permittee must keep a written operating record at the facility as required by LAC33:V.1529.A.

II. RECORDS OF EACH HAZARDOUS WASTE RECEIVED, TREATED, STORED, OR DISPOSED

The Permittee shall maintain records recorded daily. Such records must contain the following information as required by LAC33:V.1529.B.

A. The permittee will maintain, in the operating record, a record of the common name, EPA Hazardous Waste Number(s), quantity, physical form and generating process of each waste received by the facility.

B. The EPA Hazardous Waste Number(s) for each waste listed in LCA33:V.109, and for each waste characteristic(s) defined in LAC33.V.105.B will be used for recordkeeping and reporting purposes. All applicable numbers and characteristics will be used in the waste description.

C. The estimated or manifest-reported weight, or volume and density, where applicable will be recorded in one of the units of measure specified in Table 1.

TABLE 1 UNITS FOR REPORTING

Unit of Measure	Symbol	Density
Pounds	P	
Short tons (2,000 lb)	T	
Gallons (U.S.)	G	P/G
Cubic Yards	Y	T/Y
Kilograms	K	
Tonnes (1,000 kg)	M	
Liters	L	L/L
Cubic meters	C	M/C

D. The method(s) and date(s) of treatment, storage, and/or disposal of wastes will be recorded in the operating records.

E. The location and quantity of each hazardous waste within the facility will be tracked and recorded in the operating record.

For cells 6,7 and 8 each grid is no greater than 100 feet by 100 feet in area, and 10 feet deep. The location of placement of each waste load disposed in the cell is recorded by grid element number and recorded in the operating record. The manifest number(s) from which the waste load derived also will be recorded in the operating record.

F. Records and results of waste analyses will be recorded in the operating records.

G. Summary reports and details of all incidents that require the implementation of the Contingency Plan will be placed in the operating record and submitted to the Administrative Authority.

H. The records and results of all inspections performed under the Inspection Plan will be placed in the operating record.

I. Monitoring, testing, or analytical data, where applicable to Chemical Waste Management, Inc. will be performed on hazardous wastes and recorded on an operating record.

J. Chemical Waste Management, Inc. will give notices to generators that the TSD facility has appropriate permits for and will accept the waste generator is shipping.

K. All closure cost estimates will be kept updated and will be maintained in the operating records.

III. AVAILABILITY, RETENTION, AND DISPOSITION OF RECORDS

A. The Permittee shall furnish all records, including plans, required under this part upon request, and make available at a reasonable time for inspection, to any officer, employee, or representatives who are duly designated by the Administrative Authority.

B. The Permittee shall retain all records under this section for a period of time as requested by the Administrative Authority.

C. The Permittee shall submit a copy of waste disposal locations and quantities to the Administrative Authority and local land authority upon closure of all facilities if all hazardous waste are not removed from the total site.

IV. ANNUAL REPORT

The Permittee shall submit an annual report containing all the information discussed in Section I, II, and III above.

V. ADDITIONAL REPORTS

The Permittee must report to the Administrative Authority additional information following specific items.

A. Unmanifested waste reports and covered in LAC33:V.909.

B. Releases, fires and explosions as specified in LAC33:V.1513F.10.

C. Facility closures as specified in LAC Chapter 35.

D. As otherwise required in LAC Chapters 19, 21, 25 and 33.